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THE ANALYSIS BACKWARD INFERENCE PROCESS WITHIN THE FRAME OF DISCOURSE ANALYSIS

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YÜKSEK LİSANS TEZİ

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Mersin Üniversitesi Sosyal Bilimler Enstitüsü Müdürlüğüne,

Bu çalışma jürimiz tarafından İngiliz Dili ve Edebiyatı Anabilim Dalında YÜKSEK LİSANS TEZİ olarak kabul edilmiştir.

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Onay

Yukarıdaki imzaların adı geçen öğretim elemanlarına ait olduklarını onaylarım.

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I would like to dedicate this study to my beloved parents, Neslihan and Ali Çortancıoğlu.

ÖZET

Bu çalışmanın amacı ilköğretim beşinci sınıf öğrencilerinin geriye dönük çıkarım yapma seviyelerinin söylem çözümlemesi bağlamında saptanmasıdır.Geriye dönük çıkarım yapma yetisi dil edinimi sürecinde oluşmaktadır.Fakat, bu yeti ilköğretim döneminde geliştirilebilir. Bundan dolayı, öğrencilerin geriye dönük çıkarım yapma seviyelerini saptamak anlamlıdır çünkü ilköğretim süreci anadil eğitiminde önemli bir süreçtir.

Singer ve diğerlerinin (1992) çalışması esas alınarak, araştırma soruları yanıtlanmaya çalışılmıştır.Yanıt aranan sorular: (1) İlköğretim beşinci sınıf öğrencilerine yapmaları gereken çıkarımlar çoktan seçmeli olarak verildiğinde geriye dönük çıkarım yapma becerileri ne düzeydedir?,(2) İlköğretim beşinci sınıf öğrencileri geriye dönük çıkarımları kendileri yazdığında çıkarım yapma becerileri ne düzeydedir ? (3) İlköğretim beşinci sınıf öğrencilerinin geriye dönük çıkarım yapma seviyeleri yapmaları gereken çıkarımlar kendilerine çoktan seçmeli olarak verildiğinde veya bu çıkarımları kendileri yazdıklarında farklılık gösterir mi?

Çalışmanın giriş bölümünde araştırma tanıtılmış, çalışmanın amacı ve önemi açıklanmıştır. Ayrıca, araştırma soruları ve araştırmanın sınırları açıklanmıştır.

Araştırmanın I. bölümünde çalışmanın temelindeki kuramsal altyapı tanıtılmış,bu alandaki çalışmalara değinilmiştir.

II. bölümde araştırma yöntemi anlatılmıştır. Araştırmada kullanılan araçların istatistiksel analizler ve örnek çalışma yardımıyla nasıl oluşturulduğu açıklanmıştır.

III. bölüm araştırmacı tarafından hazırlanan ölçme araçlarının sonuçlarına odaklanmıştır.Ayrıca, istatistiksel analizlerede bu bölümde yer verilmiştir.

Sonuç bölümünde araştırma sonuçlarıyla ilgili çıkarımlar söylem çözümlemesi bağlamında tartışılmıştır.

SUMMARY

This study aims to determine the level of drawing backward inferences of the fifth grade elementary school students with respect to discourse analysis. The faculty of drawing backward inferences is acquired in the language acquisition period. However, this faculty can be developed during the elementary school period. Therefore, it is noteworthy to describe the level of the students in terms of backward inference faculty since the elementary school period is an important period in the education of mother tongue. The following questions are tried to be answered following the study of Singer et al.(1992).

1. What is the level of drawing bridging (backward) inferences of the elementary school fifth grade students?

1.1 The questions to be answered are: What is the level of drawing bridging inferences of the elementary school fifth grade students when the expected inference is given as multiple choice items?

1.2 What is the level of drawing bridging inferences of the elementary school fifth grade students when they are expected to write the expected inference themselves?

1.3 Is there a significant difference between the analysis of the first inference test and the second inference test?

In the introduction part, background of the study, purpose and significance of the study, research questions, and the limitations of the study are presented.

In Chapter I, the theoretical background of the problem is introduced by referring to the related literature.

Chapter II provides the research method. The process of constructing the research material with the help of the statistical analysis and the model research is explained.

Chapter III focuses on the outcomes of the research material (multiple choice test and short text test) prepared by the researcher. The statistical analysis of the results are also presented in this chapter.

The conclusion is concerned with an overall discussion of the findings with respect to discourse analysis.

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INTRODUCTION

Background of the Study

Drawing inferences is an important element which increases the degree of comprehension in all periods of human life. Inferences are necessary to work out the communication process between the speaker (sender) and the understander (receiver) or the writer (sender) and the reader (understander).This process (drawing inferences) is a natural outcome of the language acquisition period. All the people have this natural faculty. However, the degree of this faculty differs from person to person depending on various variables such as world knowledge, environment, education, and age. This study is focused on age since the degree of inferring capacity is developed in parallel with age. An adult has an advanced level of inferring capacity compared to an infant. However, different levels of inferring capacity can be observed among the infants within the same age group. School education is the period which inference process is developed consciously. Elementary school period is especially an important period in acquiring one's mother tongue. There are studies which take this age group into consideration. These studies aim to explain the nature of language with the help of inference process and find out the contributions of this process to language acquisition. The aim of our study is similar to these studies, however, our study will focus on Turkish speaking infants and especially on elementary school fifth grade students. The reason of this is the fact that one of the most important understander (receiver) factors which affects the inference

process is age. Therefore, the students should receive the education which leads them to draw appropriate and accurate inferences at the right age which is the elementary school period. Lastly, as Cohen states children are better at detecting inferences in texts if they are taught how to (1979).

As a result, what prompted us to conduct this research was that there are not any known studies on backward inferencing faculty of Turkish students in our country. Therefore, it is thought that the findings of this kind of a study will contribute to mother language education process in Turkish primary schools.

Purpose and Significance of the Study

We inclined to determine the level of drawing backward inferences of Turkish students due to the above explained reasons. Although there are various studies in respect of our study in the world (Singer,1992; Singer & Ferrreira,1983), there are not any known studies at the basic education level in Turkey. Mother-tongue education formally initiates in the elementary school and this education is important for effective communication. Consequently, this research is focused on the bridging (backward) inference process of the elementary school fifth grade students with respect to discourse analysis. Comprehension process is complex and difficult and what the reader adds to the text is as important as what he perceives from it. Inference processing is essential in this respect since a good reader distracts from a bad reader in this process. However, the situation at our schools should be determined first in order to contribute to inference processing. There are many factors that

affect comprehension process. Drawing inferences is one of these factors. This research, which determines where the difficulty arises from and the level of inference processing faculty of students is important in respect of taking measures. For this purpose, the study tries to answer the following research questions.

Research Questions

The research questions were as follows:

1. What is the level of drawing bridging (backward) inferences of the elementary school fifth grade students?

Sub problems:

1.1   What is the level of drawing bridging inferences of the elementary school fifth grade students when the expected inference is given as multiple choice items?

1.2   What is the level of drawing bridging inferences of the elementary school fifth grade students when they are expected to write the expected inference themselves?

1.3   Is there a significant difference between the analysis of the first inference test and the second inference test?

Limitations of the Study

The study has the following limitations:

1.   It only focuses on the elementary school fifth grade students;

2.   The sample groups are Toros İlköğretim Okulu, Palmiye İlköğretim Okulu, Türkmen İlköğretim Okulu, three private elementary schools in Mersin and Barboros İlköğretim Okulu, a state school in Mersin;

3.   It deals only with the bridging (backward) inference process

4.   The study is conducted in the education year of 2002-2003.

I. REVIEW OF LITERATURE

Communication is the exchange of information among people and human communication mostly relies on language. To communicate, there should be at least one sender,one receiver and a message which is transmitted. However, transmitted message is not always explicit. Therefore, when the message is not clear, inferences which is an important part of communication are formed. Rickheit et al. state that the notion of inference is important because language itself is ambiguous, vague, and fragmentary (1985).

There are two approaches which try to explain the inference process. These are the *constructionist approach* and the *minimalist approach.*

a. Constructionist approach argues that comprehension typically requires active involvement with the text in order to supply information that is not explicitly contained in the text. Basically, this approach infers that many elaborative inferences are made while reading a text and stored in memory in the same way as information is presented in the text (Eysenk and Keane,1996).

b. Unlike constructionist approach minimalist approach assumes that inferences are made on retrieval rather during reading. Minimalist approach proposes that inferences are either automatic or strategic (McKoon and Ratcliff, 1992). Automatic inferences rely on available information because they are parts of our general knowledge. Moreover, strategic

inferences are formed in pursuit of the reader's goals ; they sometimes serve to produce local coherence.

Shortly, constructionists believe that numerous automatic inferences are drawn during reading, whereas minimalists believe that there are definite constraints on what inferences are produced in this way. And minimalists question how many of these inferences are actually created automatically.

As Schank (1977) defines inferences are the core of understanding process. But what are inferences in a broader sense? In order to explain and understand inferences in a broader sense, first, some emphasis should be put on maxims of Grice and implicature, comprehension models, relevance theory of Sperber and Wilson, and then on inference process.

I.1. Code model

Being one of the comprehension models, code model provides direct communication. In the code model a process of encoding and decoding take place. A signal is taken as an input, and a message is produced according to an underlying code. Figure (1), a diagram of Shannon and Weaver (1949) shows how this process occurs.

```
message        signal      received signal   received message

source  ⇒  encoder  ⇒  channel  ⇒  decoder  ⇒  destination

                          ⇧
                        noise
```
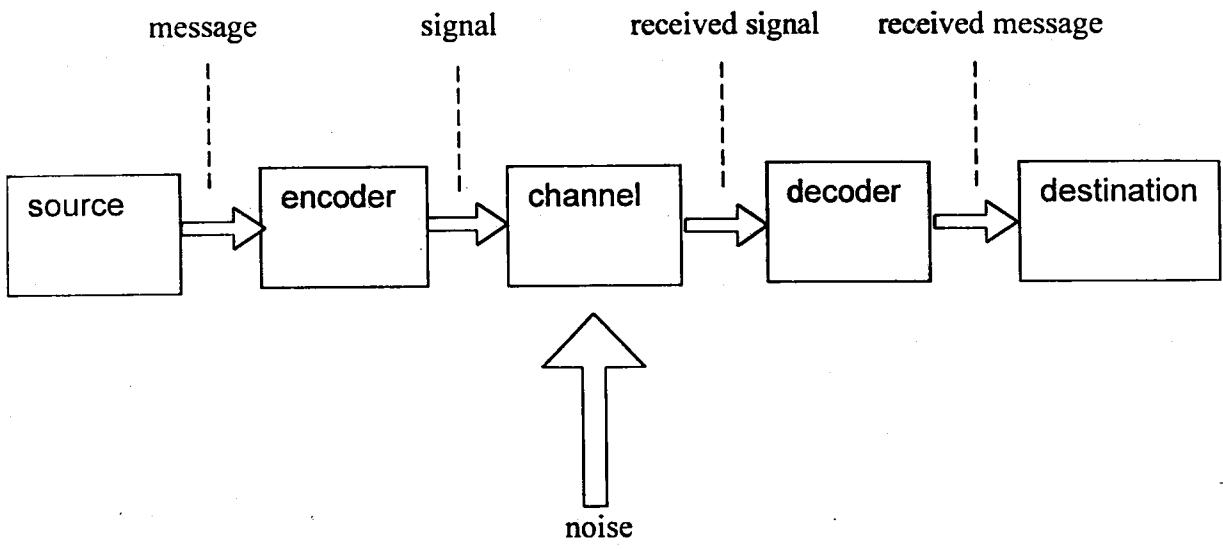
A similar model is proposed for human verbal communication by Sperber and Wilson (1986).


```
                      received
        acoustic signal   acoustic signal

                                              received thought

        thought

 ·nteral      Linguistic                Linguistic    Centeral
 ·ught    ⇒   encoder   ⇒   air   ⇒    Decoder   ⇒   thought
 ·cess                                                process

         SPEAKER                                      HEARER

                           ⇧
                         Noise
```
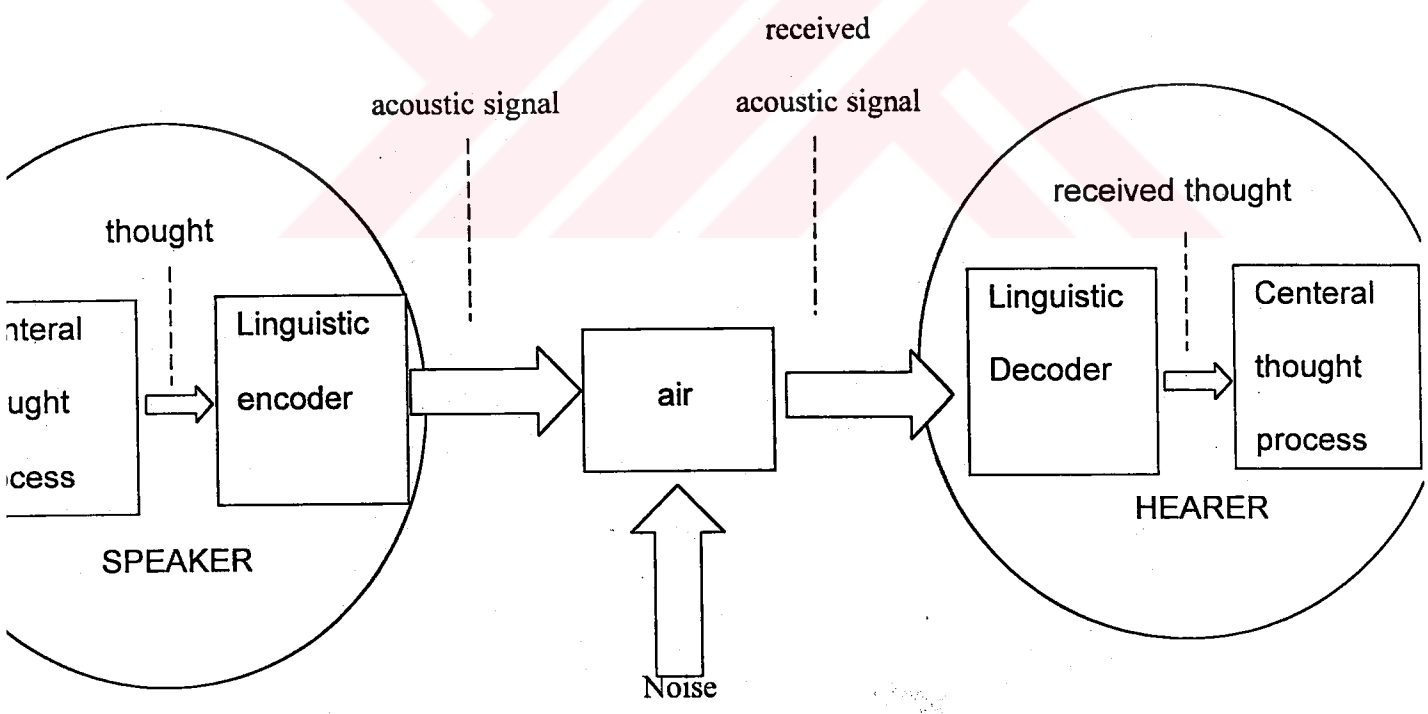
In this model the soul and the destination are accepted as central thought processes and, the encoder and decoder are linguistic abilities. Moreover, the message is a code (Sperber and Wilson,1986). The code model simply explains direct communication. And, mutual knowledge is a must in this model. However, comprehension does not only involve the decoding of a linguistic signal and there is not always mutual knowledge between the hearer and the sender but much more. Sperber and Wilson state that " there is a gap between the semantic representations of sentences and the thoughts actually communicated by utterances and this gap is filled not by more coding, but by inferences" (1986). Consequently, code model is not sufficient enough for comprehension. Another model is needed to fill the gap in effective comprehension and this model is the inference model.

I.2. Inference Model

Inference model is essential to explain the human discourse. In the inference model a set of premises are taken as input, and a set of conclusion are derived from them as output. A code is not enough to draw conclusions associated to premises. It is true that language is a code which pairs phonetic and semantic representations of sentences and thoughts communicated by utterances. This gap is filled not by more coding, but by inference. Sperber and Wilson (1986) illustrate the difference between coding and inferential process. The following example should clarify this issue:

1.

(1) Either Mary is early or Bob is late.

(2) Bob is never late.

(3)

(4) Mary is early.

"That Mary is early (4), can be either inferred from the premises in (1) or decoded from the phonetic signal in (3), but the converse is not true: (4) can be neither decoded from (1) nor inferred from (3). It can not be decoded from (1) because there is no code identifying (1) as a signal and (4) as its associated message. It can not be inferred from (3) because signals do not by themselves warrant the messages they encode " (1986:13).

I.3. Grice's Maxims and Implicature

Communication among people is achieved even when the conventional means for expressing the message is absent. There is a distinction between the literal content of a sentence and the context-dependent meaning of the utterance. Any number of inferences can be drawn from these utterances. However, all of those inferences are not communicative (intended to be recognized as having been intended). And the implicatures, being a sort of inference, are of this special kind (Levinson,1993).

The concept of implicature is highly related to language use. In order to explain language use and implicature, Grice goes beyond mere syntax or semantics and discover

pragmatic meaning conveyed by a sentence (1996). Grice outlines a co-operative principle and four fundamental maxims.

Like any human acts, language is a co-operative act. Finch (1988) states that co-operative principle occurs since people cooperate in the process of communication in order to reduce misunderstanding. In other words, both the sender (speaker) and the receiver (listener) help one another and, as a result efficient communication occurs. The principle itself states, 'make your contribution such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged'. Finch adds that "in order to comply with this principle speakers need to follow a number of subprinciples, called by Grice maxims.These subprinciples which assist the co-operative principle fall into four categories as listed below.

Maxim of Quality

Try to make your contribution one that is true:

(i) do not say what you believe to be false

(i) do not say that for which you lack adequate evidence

Maxim of Quantity

(i) make your contribution as informative as is required for the current purposes of the exchange

(II) do not make your contribution more informative than is required

Maxim of Relevance

Make your contributions relevant

Maxim of Manner

Be perspicuous, specifically:

(i) avoid obscurity of expression

(ii) avoid ambiguity

(iii) be brief

(iv) be orderly

These maxims that serve for human communication are an ideal way of communication. Unlike the relevance theory, Grice's maxims use just the inference model but not the code model. Moreover, Grice's maxims are also useful in the realization of the conversational implicature which is a kind of inference. However, there is an objection to Grice's maxims that nobody can talk by taking these into consideration all the time. But, these principles are adhered to a deeper level, anyway.

It can be departed from these maxims in two main ways. These are flouting and violation. Floutings enable people to comply with the maxims indirectly rather than directly. Speakers may flout when they become sarcastic or creative. For example, calling out something bad when you find it good can be counted as flouting. The following example from Levinson clarifies the concept of flouting:

2.

A: Let's get the kids something

B: Okay, But I veto I-C-E-C-R-E-A-M-S

(Levinson, 1983)

B spells out ' ice cream' and enables children not to understand what he is telling to A, in case that the children might demand some ice cream. Therefore, B infringes the maxim of manner willingly and this violation can be regarded as flouting.

Violating a maxim involves some element of communication failure: providing too little, or too much detail, being irrelevant, or too vague (Finch 1998). Coulthard states that violation occurs when a speaker decides to infringe a maxim quietly and unostentatiously, he may lie, he may not give the as much of the relevant information as he could, or he may offer utterances which are later seen to be ambiguous (1977). Coulthard adds " in such instances (flouting and violation) the conversational maxims provide a basis for the listener to infer what is being conversationally *implicated* (1977). An example from Levinson should make this clear:

3.

A: Where is Bill?

B: There is a yellow VW outside Sue's house.

(Levinson, 1983:102)

As Levinson states, B's answer fails to answer A's question and violates the maxims of Quantity and Relevance. Although, B's answer can be counted as non-co-operative in a way, it is co-operative in a deeper level. It is inferred that, if Bill has a yellow VW, he may be in

Sue's house. These kind of inferences occur to preserve the co-operation principle and these kind of inferences are accepted as implicatures (conversational implicature) by Grice.

Implicatures bridge the gap between what is said and what is actually meant. An implicature works out in the following way:

"(i) S has said that p

(ii) there's no reason to think S is not observing the maxims or at least the co-operative principle

(iii) in order for S to say that p and be indeed observing the maxims or the co-operative principle, S

must think that q

(iv) S must know that it is mutual knowledge that q must be supposed if S is taken to be co-operating

(v) S has done nothing to stop me, the addressee, thinking that q

(vi) therefore S intends me to think that q, and in saying that p has implicated q."

(Levinson, 1983:113)

I.4. Relevance Theory

Sperber and Wilson posit an explanation to human communication known as relevance theory. Their argument is based on psychological and linguistic perspectives of human cognition. This theory proposes that human communication can only be achieved both by using a code model and an inferential model.

The relevant information is always the focus of the human attention, therefore, the relevance is attained. What can be called relevant, then?

There are three types of information. These can be categorized as old, new and unconnected, and new but connected. Old information already exists in the individuals' representation of the world. New and unconnected information has no representations in the individual's mind at all. On the other hand, new but connected information has some representations of the world in the hearer's mind. When these old and new information (premises) come together and elaborate further information, they give rise to a new information. This effect is called relevant. Relevance here is based around human cognitive process, which they insist, to achieve the greatest cognitive effect using the least cognitive effort (Levinson, 1983).

There are two essential points for relevance. These are the contextual effect and the cognitive environment. If an assumption has a contextual effect in a context, then it is relevant in that context. Therefore, there is a link between the assumption and the context. Moreover, cognitive environment affects the analysis of information. Sperber and Wilson (1986) argue that a communicator intends to make certain assumption manifest to his hearer, by modifying his cognitive environment, not only modifying their thoughts.

By and large, the theory of relevance suggests the existence of heuristics, some innate, some acquired via experience and it implies that there is a degree of relevance in all

communication (Sperber and Wilson, 1986). The theory of relevance can not be violated. It is always communicated even when the communicator fails to be relevant.

I.5. Defining Discourse Inference

Discourse inferences are the activities on the part of the listener during the comprehension of a text.

Some definitions on inferences :

-Ideas which are not included in a message but which are captured by the internal representations of that message are called inferences (Singer, 1994).

-Inferences are connections people make when attempting to reach an interpretation of what they read or hear (Brown and Yule, 1983).

-An inference is the generation of new semantic information from old semantic information (Rickheit et al., 1985).

What is common in all these definitions is that the receiver should make an interpretive work to arrive at a reasonable command of what the sender intended to convey. Brown and Yule suggest that the receiver must go through the message to get from the literal meaning of what is written or said to what the sender intended to convey (1983) . And they add these examples:

4.

1. It is really cold in here with that window open

2. Please, close the window

(1) is used to convey an indirect request whereas (2) is what the speaker intends to say. Some inferential process is needed in the interpretation of indirect requests such as (1). Moreover, utterance (1) does not always mean utterance (2) depending on the discourse.

A lot of meanings can stem from a context or the very same utterance may convey different messages depending on the discourse elements which are sender (speaker or writer who produces the utterance), receiver (hearer or reader who is the recipient of the utterance), topic (the subject which is being talked about), setting (place and time of the event), channel (by speech, writing, singing), code (language, dialect), message form (chat, debate, email),event (the communicative happening), key (evaluation-a good speech or a bad one), and purpose (intentions of the participants of the discourse) (Brown & Yule,1983).Two scenarios from Brown and Yule (1983) should be considered to explain the issue discussed:

5.

(a) *sender:* a young mother, *receiver:* her mother in-low, *place:* a park,by a duckpond, *time:* sunny afternoon in September 1962.They are watching the young mother's two-year-old son casing ducks and the mother-in-low has just remarked that her son, the child's father, was rather *backward* at this age.

The young mother says: I do think *Adam's* quick.

6.

(b) *sender:* a student, *receivers:* a set of students, *place:* sitting round a coffee table in the refectory, *time:* evening in March 1980. John, one of the group, has just told a joke. Everyone laughs except Adam. Then Adam laughs.

One of the students says: I do think *Adam* is quick.

Although the utterances are exactly the same at the end of the above scenarios, the messages they convey are totally different depending on the sender, receiver, topic, setting, event and purpose. In the first scenario *Adam* is being compared to his father and *quick* has a meaning of quick development. On the other hand, *Adam,* in the second scenario, is being compared to his friends and *quick* is implying the opposite of its original meaning. Shortly, the same utterance can convey different intended meanings in different contexts.

It is plain that along the course of reading a text, world knowledge is often required in order to establish coherent links between sentences (Iza&Ezquerro,2000). Therefore, the comprehension of a text is highly dependent upon the reader's additional knowledge. One way of characterizing this additional knowledge is drawing inferences. These inferences appear to be of different kinds. In this concern, the range of textual inferences fall into four categories:

1. lexical inference
2. inferences of space and time
3. extrapolative inferences
4. evaluative inferences

The first one, lexical inference, is required to solve problems of lexical ambiguity or anaphoric reference. The second sort is necessary for comprehending a narrative text. Readers have to be able of anchoring the events described in some spatial and temporal frameworks. The third kind, extrapolative inferences, readers must infer the sequence of intervening events to extrapolate beyond what is literally given in the text. The fourth one is the evaluative inferences. The meaning of an event depends on the context in which is presented, and readers have to determine this in order to understand what the text is about. As it is seen, inferences can be classified in a number of ways.

Another classification is the one between bridging and elaborative inferences. And this study will focus on this classification, especially on bridging inferences.

I.5.1 Bridging and Elaborative Inferences

Comprehension is often considered to be the first goal of communication. Comprehension is the process of relating language to its concepts in one's memory and to references in the real world (Hayakawa,1978). And one way of successful communication is inferring.

Inferences are the activities on the part of the understander (receiver).Understander works backward and forward from the current position. Backward processing is named as bridging inferences whereas, forward processing is called elaborative inferences. According to Kintsch, both backward (bridging) and forward (elaborative)

inferences are problem solving processes employed when there is evidence from which some conclusion can be drawn (1974).

I.5.1.1 Bridging Inferences

Lascarides and Asher take bridging to be an inference that two objects or events that are introduced in a text are related in a particular way that is not explicitly stated, and yet the relation is an essential part of the content of the text in the sense that without this information, the lack of connection between the sentences would make the text incoherent. Bridging is part of the task of computing rhetorical connections in a discourse (1993).

Bridging inferences occur in utterances where the speakers (senders) depend on their general or background knowledge. Singer et al. state that during comprehension, people invoke the general knowledge needed to validate bridging inferences (1992). We have to consider the following examples to clarify this issue:

7.

    A: Did you already buy fruit?

    B: The oranges are already in the refrigerator

                (Renkema, 1993:159)

In the example (7) B's general knowledge, orange is a kind of fruit, is activated while answering A's question.

The effect of the general knowledge is sometimes so strong that it can sometimes lead people to confusion or even drawing false bridges as in the example below:

8.

A father and a son are sitting in a car. They are in a serious accident.The father is killed in impact and the son is taken to the hospital in critical condition. As the victim is being wheeled into the operating room, the surgeon exclaims; " Oh no, I can't operate that man. That's my son ! "

(Renkema, 1993 :160)

This story,in a way, is puzzling for some people since in their world knowledge a surgeon should be a man and when they hear this story they can not infer that the surgeon can be the victim's mother. This example proves how important world knowledge is while interpreting such stories and while drawing inferences from them.

Bridging (backward) inferences are reliably computed and stored during comprehension. They are drawn during reading since without them a message can not be completed. These are the type of inferences which play an essential role in the comprehension of a part of a text. Moreover, the comprehension becomes incomplete or unsuccessful if the reader (hearer) fails to draw the bridging inference. Following example makes this point clear:

9.

No longer able to control his anger, the husband threw the delicate porcelain vase against the wall. It cost him over one hundred dollars to replace it.

(Renkema, 1993:160)

In the example (9), there is a missing step which is needed in order to understand the text properly and this missing step is 'the vase was broken'. A bridging inference is drawn which is essential to complete the message and to grasp the whole meaning of the text.

As bridging inferences play an important role in discourse comprehension and drawn very quickly by the receiver, Van Dijk and Knitsch (1983) explain with the help of their experiments that bridging inferences are verified as quickly as statements explicitly mentioned in the text. Singer gives these examples accordingly (1983):

10.   The dentist pulled the tooth painlessly. The patient liked the new method. (explicit statement)

11. The tooth was pulled painlessly. The dentist used a new method.(bridging inference)

12. The tooth was pulled painlessly. The patient liked the method. (elaborative inference)

For (11) a complete understanding requires the bridging inference that the tooth was pulled off by the dentist. However, as it was mentioned previously,comprehending (10) and (11) require same amount of time.

I.5.1.2 Elaborative Inferences

Unlike bridging inferences, elaborative inferences work forward. They are also called forward inferences since they are forward extrapolations. As Iza and Ezquerro states elaborative inferences do not connect information explicitly stated in the text ;rather they are inferences that add new, no yet stated information(2000). Eysenk and Keane's example (1996) reinforces these explanations:

13.

    a. Mary heard the ice-cream van coming

    b. She remembered her pocket money

    c. She rushed into the house

Several inferences are automatically drawn from the above example, since they are taken as natural outcomes of comprehension process. Moreover, they aid comprehension as soon as they are drawn. One of the possible elaborative inferences which can be drawn from the above example is: Mary will get her pocket money from the house and buy some ice-cream (an information which is not stated in the text).

According to Van Dijk's and Kintsch's explanations, elaborative inferences occur when the understander uses his or her knowledge about the topic under discussion or to establish connections between what is being read and related items of knowledge (1983). The example, "the tooth was pulled painlessly. The patient liked the new method" , certainly permits an elaborative inference about a dentist as Singer states (1994). The source of elaboration is some knowledge schema that is being used to interpret the text and if there is a misfit between the schema and the text, it is possible that the text will be adjusted to make it conform better to the schema (Brown and Yule, 1983). Brown and Yule also add that elaborative inferences need tighter interpretation between the text or the speaker and the reader's (receiver's) own knowledge which result in better learning. What is more, readers draw elaborative inferences to predict upcoming consequences or information. Following example clarifies this point:

14. No longer able to control his anger, the husband threw the delicate porcelain vase against the wall. He had been feeling angry for weeks, but refused to seek help. (Renkema, 1993: 160)

In the above example (14), we can not understand from the text that 'the vase was broken'. There is not a missing step, however, one should make a forward prediction to infer the upcoming consequence, that the vase is broken, then it is called elaborative inference. Moreover, as soon as the comprehenders read that "The actress fell from the 14th floor, "they

elaborate that the actress died. If so, they would be generating what is called predictive, forward or elaborative inference. However, experiments show that this inference is only partially encoded into the mental representation of a text (McKoon & Ratcliff,1986). It is claimed that only necessary inferences are drawn at the time sentences are encoded. Therefore, elaborative inferences are made just in case they are needed, for instance to answer questions or solving problems of interpretation. If they can be drawn from the text they can also be derived from an adequate memory representation of it (Iza & Ezquerro,2000).Consequently, there are two major sources of difficulty in the study of elaborative inferences. Firstly, as O'Brien et al. argue they are not necessary for comprehension, it is difficult to predict exactly whether or not a reader will perform some inference, and when will he do it,as well as to know exactly what that inference would consist in. Secondly, readers normally generate elaborative inferences only in limited situations, preferring to delay any inferential process until it becomes necessary (1988).

I.5.2   Coherence in Bridging Inferences and Elaborative Inferences

One of the major distinctions between bridging and elaborative inferences is that only bridging inferences are necessary and essential for coherence. Since bridging inferences are drawn during reading, they contribute to coherence. On the other hand, there are certainly doubts about when elaborative inferences are made.According to Singer's and Fierreira's experiments (1983), the results did not clearly resolve the issue of whether people reliably draw forward (elaborative) inferences during reading. Therefore, elaborative inferences have no direct contributions to coherence of a text. For coherence is the relationship linking the

meanings of utterances in a discourse or in a text, these links are based on the understanders'

background knowledge. Parallel to this, Clark and Haviland suggest that " to comprehend a

message, the understander must identify the relation between the current propositions and

what has been preceded and this has the crucial impact of preserving text coherence" (1977).

Shortly, bridging inferences occur in three steps:

    1. the understander must distinguish the given and new information conveyed by

the current sentence.

    2. a memory referent must be found for the given information

    3. the new sentence information may be interpreted with the referent (Haviland

and Clark,1977).

    Singer examined inferences in order to explain coherence. Examples (10), (11)

and (12) are Singer's examples to test coherence in bridging and elaborative inferences. The

dentist is explicitly stated in (10).Coherence depends on the bridging inference that the dentist

pulled the tooth in (11).However, in (12) the elaborative, inference about a dentist is drawn,

but coherence does not depend on this inference (1994).To sum up, discourse coherence does

not exist when bridging is not made and, unlike bridging inferences coherence is not essential

in elaborative inferences.

I.5.3 When Are Inferences Made?

The biggest problem for discourse inferences is to determine when they are made. Are they part of a comprehension, or do they occur optionally after comprehension? Van Dijk and Kintsch (1983) emphasize that it is clear that not all possible inferences can actually be made and they ask so, how can one distinguish those inferences that must occur as an integral part of discourse comprehension. And their answer is: one class of inferences that appear to be necessary during comprehension are the bridging inferences required for the coherence of the text. On the other hand, elaborative inferences do not necessarily occur during comprehension. As it was mentioned one of the greatest problems of discourse inferences is to determine when they are made. Rickheit et al.'s suggestion to this problem is that elaborative inferences are made every point in time during comprehension process. Whereas bridging inferences are drawn only when it is needed to bridge a gap in the text (1985). Singer and Ferreira (1983) reinforces this point " bridging inferences are drawn during reading because, without them, a message would become disjointed".

I.6. Inferences as Missing Links

Is it possible to think of an inference as a process of filling in the missing links between two utterances? Before answering this question we should clarify the concept of missing link.

There is a distinction between inferences and missing links that has to be drawn: Brown and Yule (1983) emphasize that texts may have missing links,but it is readers and hearers (receivers) who make inferences. There are two categories of missing links. First category is the missing links which are automatically made and do not result in additional processing time.Second category is the missing links which need additional processing time and is not automatic. The following examples should be considered to clarify the issue discussed.

15.

a. Mary dressed the baby

b. The clothes were made of pink wool

c. Dressing involves clothes   (Sanford & Garrod,1981)

16.

a. She decided to sell the cow

b. And buy a shop with the money

c. Selling involves money (Chafe,1972)

17.

a. Mary got some picnic supplies out of the car

b. The beer was warm

c. Beer is a picnic supply (Haviland & Clark, 1974)

Sanford and Garrod's proposal is that automatic connections are made between elements in a text via preexisting knowledge representations (1986). So, all the (c) sentences

are automatic connections and should not count as information, but the connection between picnic supplies and beer is non-automatic and ought to be treated as an inference (Baddely,1986). Therefore, non-automatic connections (inferences) require more imperative work and more processing time on the reader's (hearer's) part than automatic connection.

I.7. Factors That Affect Inference Processing

I.7.1. Theme and Inference

The theme hypothesis relies on inference processing which focuses on the thematic ideas of a discourse. Investigators have compared people's judgments about the implications of thematic and peripheral discourse idea and they are generally identified as thematic on the basis of their hierarchical level. An example should make this clear:

18.   a. The spring episode was the first Morinthian revolution

  b. All Morithian revolutions were failures

  c. The spring episode was a failure

     (Walker and Mayer, 1980)

They were either thematic or peripheral, the subjects judged the truth of implied facts as (c).

However, first consistent with the inference theme hypothesis people were more accurate in their judgments of inferences from the thematic than peripheral facts. Second,

ideas mentioned frequently have high interconnectivity with other discourse propositions. Third, thematic status of text ideas has been manipulated by coupling them with important consequences or unimportant ones (Singer, 1994).

I.7.2 Distance

Distance is another important factor that affects inference processes. The detection of coreference and of the construction of inferential bridges is likely to be inversely related to discourse distance. If the inference is drawn within a single text,than this means it is derived in a near condition. On the other hand, it is also possible that inferences are drawn between two different texts. This kind of inferencing depends on far condition (Van Den Broek et al., 2001).

I.7.3 Discourse Affordances

Inferences allow readers to connect the different parts of the text and, hence, to perceive the text as consisting of a series of connected events or facts rather than isolated statements (Van Den Broek et al., 2001) .However, inference making and comprehension of a text vary across the genre and form of discourse. Moreover, Singer states that the form and genre of discourse may promote or afford particular types of processing (1994).

I.7.4. Interestingness

It is a common idea that interestingness affects processing but as Singer mentions it has not received much experimental testing (1994). However, it is believed that emotional and personal topics increase the speed of inference processing.

I.8.   Understander Factors of Inference Processing

Understander characteristics which have been hypothesized to affect inference processing are assembled under four topics by Singer (1994) .These are processing capacity, age, knowledge, and orienting tasks in comprehension. However, Van Den Broek et al. add 'goal' to this list (2001). Furthermore, Zwaan and Brown (1996) mention about the 'language proficiency' of the understander.

I.8.1   Processing Capacity

It was found that reading span was a significant predictor of people's accuracy in judging inference test statements that bridged non-adjacent message ideas (Singer,et al.,1992). The capacity constraints of working memory have clear implications for inference processing. And great capacity is the capacity which can facilitate elaborative inferences that are not essential to coherence. The higher the capacity of working memory, the more probable it is that the antecedent object of a bridging inference will have been retained in working memory

(Singer, 1994). Moreover, reading span is another factor that affects capacity. Whitney et al. compared the inference profiles of low and high reading span subjects. They figured out that high reading span subjects produced fewer specific elaborations of text ideas than did low span subjects (1991).

I.8.2 Age

Age is another factor of inference processing. When young and old readers were compared, it was observed that young readers made more errors on inference questions than on explicit questions, but this difference was considerably larger in elderly listeners. Furthermore, young subjects were better at detecting text anomalies than were elderly adults (Cohen and Nagel, 1962). Moreover, drawing inferences is a process which can be taught.

I.8.3   Goal

The effects of understanders' (reader's) goals are essential on inference processing. The ability to create inferences is affected by reading skill, understanding of the demands of the reading task, working memory capacity, and background knowledge. However, how readers apply their skills and knowledge depends on their goals for reading (Van Den Broek et al., 2001). Van Den Broek et al.'s experiment results demonstrate that the

readers with a study goal generated more bridging and elaborative inferences during reading than those with an entertainment goal.

I.8.4 Knowledge

Fundamental principle of inferencing as many pragmatic discourse inferences are derived from one's knowledge of the world. Therefore, the particular knowledge of the understander affects inference processing. Anderson et al. summarize that people's interpretations of ambiguous passages are influenced by their backgrounds (1977).To describe this process, how world knowledge contributes to inferring, a schema is set by Barlett (1939).Four functions in the reading and listening process are served by this schemata and these are:

1. They provide an interpretational framework. If readers (receivers) can not place a given passage in their minds, then the information can not be processed.

2. They direct the interpretation.

3. They make inferences possible.

4. They indicate what is important and what is not in a given discourse.

(Renkema, 1993:164)

I.8.5 Orienting Tasks in Comprehension

As there are various kinds of inferring, there are different kinds of tasks developed by the reader for perception and comprehension. Different understander tasks entail different processing tasks. For example to judge the ambiguity of a passage, understander uses deep processing, whereas, he uses shallow processing to count the number of the pronouns (Singer, 1994).

CHAPTER II

METHOD

In this chapter, we will give information related to the sample group of the research, the development of the research material and the pilot study, and the implementation of the research material.

II.1 Sample Group

The research was conducted in Mersin in Barbaros İlköğretim Okulu (a state school) and Özel Toros İlköğretim Okulu (a private school). The students were chosen non-randomly. In this way two-hundred fifth grade elementary school students formed our sample group. One hundred-two of the students of the sample group were from Barbaros İlköğretim Okulu and ninety-eight of them were from Özel Toros İlköğretim Okulu. The individual differences of these students due to their social background were not taken into consideration in determining their level of drawing backward inferences. However, it can be said the students of both of these schools belong to the high socioeconomic class.

II.2 Development of the Research Materials

Two research materials (Appendix I, Appendix II) were prepared by the researcher in order to assess the level of drawing backward inferences of the fifth grade

elementary school students. The interests and age group peculiarities of the subjects were taken into consideration while composing both of the research materials. Some Turkish course books were examined in order to determine the peculiarities of the age group.

The first form (Appendix I) was a multiple choice test which was consisted of twenty-four items. The second form (Appendix II) was a test consisted of fifty short story frames. Each short story was framed of three to four sentences.

II.2.1 Development of the First Research Material (Multiple Choice Test)

The first test which was used for piloting was a twenty-four item multiple choice test. Each of the items consisted two-sentence passages and a question about the passage. For each item the students were expected to select one of the two alternatives (a) or (b). The items in the test were designed according to Singer et al's model (1992). However, there were no multiple choice frames in Singer's model. The subjects were expected to write down their answers after the questions but not circle the best answer. Moreover, the expected answers in their study were in 'yes', 'no' form as it can be seen from the examples (1) and (2).

1.

a. The scientist put the powder in the boiling water.

b. After a few minutes the powder disappeared

Question: Did the water dissolve powder? (Singer et al, 1992)

2.

a. Ted scrubbed the pot with the soap.

b. The pot shone brightly

Question: Did the soap clean the pot ? (Singer et al, 1992)

In our study, we did not aim to receive 'yes', 'no' answers for all the frames in the test. While some frames were designed in that way, others were not. The following examples (Appendix I) should make this clear:

3.

a. Ahmet okuldan çıktığında iştahla pastanenin vitrinindeki pastalara baktı. (When Ahmet got out of the school, he looked at the cakes in the window of the bakery with an appetite).

a. Eve gittiğinde ağzı burnu çikolata içindeydi.

(When he got home, his mouth and nose were covered with chocolate)

Soru: Ahmet çikolatalı pasta yiyebildi mi?

Question: (Could Ahmet eat some chocolate cake?)

a) Evet.(Yes)

b) Hayır.(No)

4.

a. Sevgi'nin birinci dönem matematik notu karnesinde zayıftı.

(Sevgi's maths grade was poor in her report in the first term).

b. İkinci dönemin sonunda annesine karnesindeki matematik notunu sevinçle gösterdi.

(She showed her maths grade in her report happily at the end of the second term)

Soru :Sevgi neden sevinçliydi?

Question: (Why was Sevgi happy?)

a) Dönem sonu geldiği ve tatile gireceği için.

(Because it was the end of the term and she was going on a holiday)

b) Matematik notu düzeldiği için.

(Because her maths grade got better)

The test prepared in this way was implemented in Barbaros İlköğretim Okulu (a state school) and in Özel Palmiye İlköğretim Okulu (a private school) in Mersin. The test was conducted in the fifth grade classes with totally two-hundred students. The students who answered the test items and the classes were determined non-randomly. The individual differences of these students due to their social backgrounds, etc. were not taken into consideration in determining their level of drawing backward inferences. The test was conducted in a single day. Students were informed about the aim of the test, number of the questions, and how they were to answer the test. Application was done under the care of class teachers and the researcher visited all the classes during the application in case of any problems. Students were given a single session of 90 minutes (following the first test, they were immediately given the second test).

II.2.2 Development of the Second Research Material

The second test which was used for piloting was a fifty item test (short story frames), each consisted of two or three sentence passages and a missing sentence that the students were to write down. Short stories were designed in the form of syllogisms with a missing premise (step) and these kind of syllogisms are called enthymemes (Singer et al.,1992). Therefore, the items in our study were planned like enthymemes. The study of Singer et al. (1992) was taken as a model while preparing these items.

Singer et al. state that backward inferences are implicitly validated with reference to world knowledge before they are accepted by the understander (1992) and they give an example from Cohen and Nagel which is an enthymeme to prove their assumption.

5.

a. (Major premise)

b. Sharon took the aspirins

c. Her headache went a way

(Cohen and Nagel, 1962)

It is as though the understander treats the cause as the minor premise and the effect as the effect as the conclusion in the syllogism. And, the understander needs his world knowledge for comprehending the major premise. Moreover, to illustrate in the enthymeme they add another example:

6.

    a. Drunkards are short lived

    b.

    c. John won't live long

What is missing is the minor premise, *'John is a drunkard'*.

Enthymeme (5) is solved with the major premise *'If one has a headache and takes aspirins, the headache goes a way'* .And the enthymeme (6) is solved with the minor premise *'John is a drunkard* . As it was mentioned, each frame was designed in the form of enthymemes in the second form. And the missing premise (step) in each enthymeme was the minor premise. It is as though the reader (understander) treats the second sentence as the minor premise and the third sentence as the result (conclusion) as it is in syllogisms. Consequently, the interpretation of the sample group was highly depended on their background knowledge while studying on the frames. In their research Singer et al. (1992) used such frames as illustrated in the below examples:

7.

a. Mark's dog chased the squirrel in the yard

b.

c. The squirrel climbed a tall oak tree

The missing minor step is "The squirrel was frightened by the dog"

8.

a. The doctor placed the bandage on the wound.

b.

c. The wound healed

The missing minor step is "The bandages healed the wound"

9.

a. The police worried about vandalism as the tornado swept through the   town.

b.

c. Albert found his car smashed

The missing minor step is "The tornado smashed Albert's car"

10.

a. Greg rode his bike across the tracks to avoid the broken glass.

b.

c. Greg's tire went flat

The missing minor step is " The glass cut Greg's tires".

Our research items were designed as the above examples from Singer et al. (1992).Following items are some examples from our second form (Appendix II):

11.

a. Kaan oyuncak tabancasını duvara fırlattı.

(Kaan threw his toy pistol to the wall).

b.

c. Annesi ona yeni bir tabanca almayacağını söyledi.

(His mother told him she wouldn't buy him a new pistol).

The missing step expected to be filled by the subject in this frame was

" Kaan'ın tabancası kırıldı"

(Kaan's pistol was broken) .

12.

a. Ayşe taze ekmeği dilimlemeye çalışıyordu

(Ayşe was trying to slice the fresh bread)

b.

c. Eli ve ekmek bir anda kanlar içinde kaldı.

(All of a sudden,there was blood all over her hand and bread).

The missing step to be filled was "Ayşe elini kesti"

(Ayşe cut her hand).

13.

a. Öğretmen problemi çözmek için Kaan'ı tahtaya kaldırdı.

(The teacher called Kaan to the board to solve the problem).

b.

c. Yerine otururken Kaan çok üzgündü.

(Kaan was very sad while he was sitting back to his seat).

The missing step was "Kaan problemi çözemedi"

(Kaan couldn't solve the problem).

The test prepared in this way was implemented in Mersin in Barbaros İlköğretim Okulu (a state school) and Özel Palmiye İlköğretim Okulu (a private school). The test was conducted in the fifth grade classes with totally two-hundred students. The students who answered the test items and the classes were determined non-randomly. Since the second test

was conducted on the same day and in a single session of 90 minutes with the first test, it was answered by the same number of students and clearly by the same students. Students were informed about the aim of the test, number of the questions, and how they were to answer the test. Application was done under the care of class teachers and the researcher visited all the classes during the application in case of any problems.

II.2.3 Scoring the Pilot Forms

After completing the application of the pilot study in order to reach the standard tests, the tests used in the pilot study were scored according to the score tables prepared by the researcher. Two score tables were prepared depending on the different characteristics of the tests (multiple choice test and short story frames).

II.2.3.1 Scoring the First Pilot Form

For scoring the first form (the multiple choice test) of the pilot study a score table was formed in terms of full points (2 points), half points (1 point) and zero point (0 point). An answer was counted as full points (2) if the best answer had been circled by the student. An answer was scored as half points (1) when the wrong choice had been circled and when a question was not answered, zero (0) point was given to that unanswered question.

II.2.3.2 Scoring the Second Pilot Form

Another score table was formed in order to evaluate the second form (short story frames) of the pilot study. Full point was 3 points, half point was 2 points (an answer which was not completely right, yet very close to the target answer was marked as 2 points). And 1 point was given the answers which were completely away from the target answer. And finally, unanswered questions were given 0 points.

II.2.4 Statistical Analysis of the Pilot Forms

After scoring the tests used in the pilot study, the collected data was conveyed to the computer (SPSS 10.0). In order to determine the suitable questions for the standard version of the test, both item analysis and other statistical analyses were made to determine some statistical features of the forms used for the pilot study. For the scoring of the forms used for piloting were based on a scale different than (1,0),item analysis based on internal consistency norm and item analysis based on correlations were used in the studies of item analysis. (Tezbaşaran,1997).

EXCEL (7,0), SPSS (10,0) and STATISTICA (5,0) statistical package programs were used for the studies of item analysis, validity, t-test for unrelated samplings, obtaining tectrachoric correlation matrix, the calculation of factor analysis and drawing the charts.

II.2.4.1 Statistical Analysis of the First Pilot Form

After scoring the items in the first pilot form, the students were arranged in an order from the highest point to the lowest point relating to the internal consistency norm.27% of the up group students, depending on the results of distribution of the scores,were determined as the up group; and the 27% of the low group was defined as the low group students. The members of the up group indicated that they were highly equipped with the backward inferencing ability that the forms had aimed to measure. On the other hand, the low group students indicated that their capacity of drawing backward inferences was not sufficient. Moreover, what expected from the answer dispersion of the items was: the group at the up end of the distribution had to show that they had the ability the item had been measuring and the group at the low end of the distribution had to show that they did not have such an ability of drawing backward inferences. If an item could not recognize the distinction between the answers of low-up groups, than that item could not make a distinction between the ones who could draw backward inferences and who could not.

The process of item selection based on Likert's internal consistency norm was realized with the data obtained from the 27% of the students from the low group and 27% of the students from the up group. The significant difference between the item points mean of the up group students and the low group students was tested with the help of the t-test for the

irrelevant samplings. This process was repeated for all the items of the first pilot form (Baykul, 1999).

In table 1, 2-Tailed t-test results of irrelevant samples are given. There is a significant difference of 0.05 between the item points mean of low-up groups for all the items that are included in the first form as illustrated in table 1.In other words, all the items in the first form can make a distinction between the low groups and up groups.

Table 1: t-test results of the first form

Item No	Group	N	Mean	Std. Deviation	t	sd	p
1	Up group	54	2,00	0,00	2,669*	106	0,009
	Low group	54	1,85	0,41			
2	Up group	54	2,00	0,00	3,036*	106	0,003
	Low group	54	1,85	0,36			
3	Up group	54	2,00	0,00	2,326*	106	0,022
	Low group	54	1,90	0,29			
4	Up group	54	2,00	0,00	3,531*	106	0,001
	Low group	54	1,77	0,46			
5	Up group	54	2,00	0,00	2,059*	106	0,042
	Low group	54	1,92	0,26			
6	Up group	54	2,00	0,00	2,574*	106	0,011
	Low group	54	1,89	0,31			
7	Up group	54	2,00	0,00	2,326*	106	0,022
	Low group	54	1,91	0,29			
8	Up group	54	2,00	0,00	3,256*	106	0,002
	Low group	54	1,83	0,38			
9	Up group	54	2,00	0,00	3,256*	106	0,002
	Low group	54	1,83	0,38			
10	Up group	54	2,00	0,00	3,682*	106	0,000
	Low group	54	1,80	0,41			
11	Up group	54	2,00	0,00	4,724*	106	0,000
	Low group	54	1,70	0,46			
12	Up group	54	2,00	0,00	2,893*	106	0,005
	Low group	54	1,83	0,42			
13	Up group	54	2,00	0,00	2,842*	106	0,005
	Low group	54	1,81	0,48			
14	Up group	54	2,00	0,00	3,322*	106	0,001
	Low group	54	1,80	0,45			

15	Up group	54	2,00	0,00	3,738[*]	106	0,000
	Low group	54	1,76	0,47			
16	Up group	54	2,00	0,00	3,659[*]	106	0,000
	Low group	54	1,74	0,52			
17	Up group	54	2,00	0,00	4,458[*]	106	0,000
	Low group	54	1,67	0,55			
18	Up group	54	2,00	0,00	3,322[*]	106	0,001
	Low group	54	1,80	0,45			
19	Up group	54	2,00	0,00	6,161[*]	106	0,000
	Low group	54	1,52	0,57			
20	Up group	54	2,00	0,00	5,808[*]	106	0,000
	Low group	54	1,61	0,49			
21	Up group	54	2,00	0,00	2,214[*]	106	0,029
	Low group	54	1,85	0,49			
22	Up group	54	2,00	0,00	3,622[*]	106	0,000
	Low group	54	1,72	0,56			
23	Up group	54	2,00	0,00	3,036[*]	106	0,003
	Low group	54	1,85	0,36			
24	Up group	54	2,00	0,00	5,769[*]	106	0,000
	Low group	54	1,50	0,64			

[*]p<0,05

After the study of internal consistency, correlation based analysis was applied to the first pilot form. The goal of this study was to choose the items which give high correlation with the total scores in addition to the results obtained from the analysis of internal consistency.

The Pearson Moments Product Correlation Coefficient was used while calculating the item-total correlation for item points and total points were accepted as permanent variables (Baykul 1996).The results of item-total point correlations for the first form of the test can be observed in table 3.

Table 3:Item-total points correlation for the first form

Item No	1	2	3	4	5	6	7	8	9	10	11	12
r_{XY}	0,14	0,14	0,12	0,34	0,10	0,32	0,08	0,41	0,28	0,43	0,40	0,24
Item No	13	14	15	16	17	18	19	20	21	22	23	24
r_{XY}	0,18	0,36	0,14	0,33	0,33	0,47	0,54	0,47	0,10	0,25	0,33	0,42

As it can be observed from the table 3, the items which gave the highest correlation points to total points were the items 19, 20, 10, 24, 8, and 11. Correlation based analysis proved that, some items did not give high correlation points although they were valid according to the t-test results. The items 1, 2, 3, 5, 7, 15, and 21 were not embodied in the standard form for their low correlation with the total points. The items which were embodied in the standard from (multiple choice test, Appendix III) were the items 4, 6, 8, 9, 10, 11, 12, 13, 14, 16, 17, 18, 19, 20, 22, 23, and 24.

After the completion of item analysis, validity and reliability studies were applied to the first pilot form which consisted 17 items. Cronbach α coefficient was used for the reliability studies (Baykul, 2000).The α reliability of first pilot form (17 items) was 0, 72.And

the validity coefficient of the first pilot form could be accepted adequately enough for the standard test.

Factor analysis was used for the validity studies of the first pilot form.

The screen plot of eigen values of the 17 item first final form are illustrated in figure 1.It is seen that the data set deals with a single dimension relating to the results of factor analysis of 17 item first form and the screen plot of their eigen values. It has been observed that the eigen value of the first factor (λ_1=3,375) is greater than the eigen value of the second factor (λ_2=1,422) .Moreover, the other factors have eigen values which do not have serious differences. This situation proved that the 17 item first form was single-dimensional.
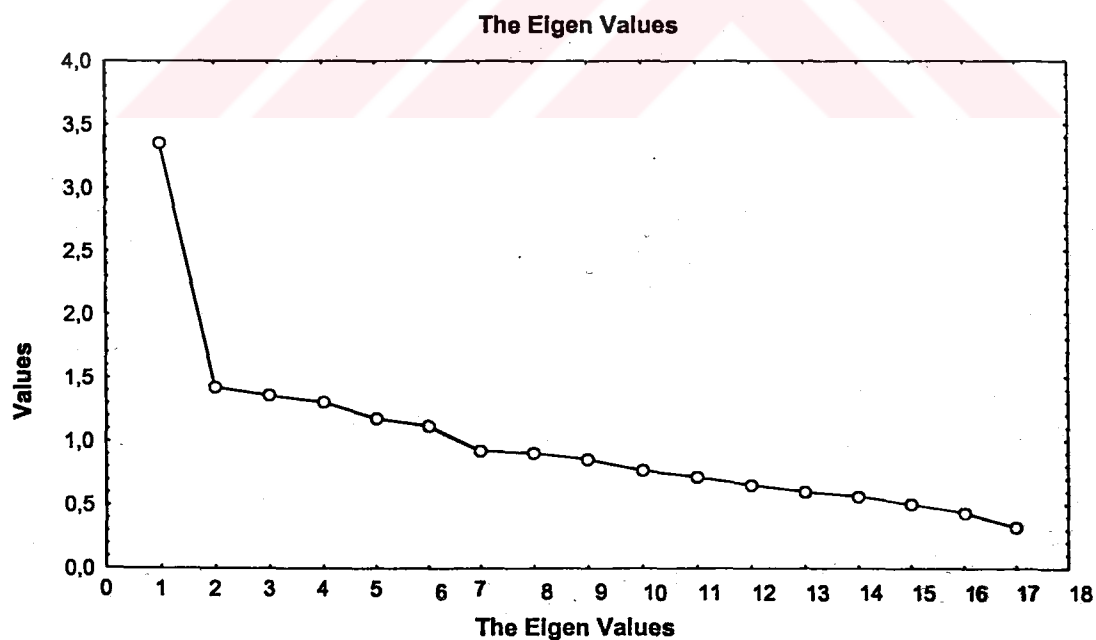
Figure 1: Screen plot eigen values of the 17 item standard form.

After the appropriate items from the first form had been chosen, the application of the standard test was implemented.

II.2.4.2 Statistical Analysis of the Second Pilot Form

The analyses implemented for the first pilot form were also used for the second pilot form. That is to say, such as the first form the process of item selection based on Likert's internal consistency norm was also realized for the second form. The data was obtained from the 27% of the students from the low group and 27% of the students from the up group. The significant difference between the item points mean of the up group students and the low group students was tested with the help of the t-test for the irrelevant samplings (Baykul 1999).

In table 2, 2-Tailed t-test results of the items which take place in the second form are given for the unrelated samplings.

Table2: t test results of the items in the second form

Item No	Group	N	Mean	Std. Deviation	t	sd	p
1	Up group	54	2,85	0,45	1,565	106	0,121
	Low group	54	2,68	0,64			
2	Up group	54	2,87	0,34	4,214*	106	0,000
	Low group	54	2,31	0,91			
3	Up group	54	2,89	0,46	1,040	106	0,301
	Low group	54	2,78	0,64			
4	Up group	54	2,88	0,42	7,362*	106	0,000
	Low group	54	1,83	0,97			
5	Up group	54	2,81	0,58	-0,166	106	0,869
	Low group	54	2,83	0,57			
6	Up group	54	2,92	0,38	4,409*	106	0,000
	Low group	54	2,33	0,91			
7	Up group	54	2,89	0,46	4,799*	106	0,000
	Low group	54	2,17	1,00			
8	Up group	54	2,81	0,58	3,130*	106	0,002
	Low group	54	2,39	0,81			
9	Up group	54	2,70	0,63	5,258*	106	0,000
	Low group	54	2,00	0,75			
10	Up group	54	2,65	0,83	5,350*	106	0,000
	Low group	54	1,67	1,06			
11	Up group	54	2,74	0,62	6,856*	106	0,000
	Low group	54	1,65	0,99			
12	Up group	54	2,83	0,61	2,919*	106	0,004
	Low group	54	2,39	0,94			
13	Up group	54	2,72	0,74	1,300	106	0,197
	Low group	54	2,52	0,88			
14	Up group	54	2,70	0,71	6,218*	106	0,000

	Low group	54	1,57	1,13			
15	Up group	54	2,78	0,63	9,313[*]	106	0,000
	Low group	54	1,44	0,84			
16	Up group	54	2,65	0,78	2,534[*]	106	0,013
	Low group	54	2,28	0,74			
17	Up group	54	2,80	0,65	-1,001	106	0,319
	Low group	54	2,91	0,49			
18	Up group	54	2,72	0,68	2,856[*]	106	0,005
	Low group	54	2,26	0,97			
19	Up group	54	2,94	0,41	1,991[*]	106	0,049
	Low group	54	2,72	0,71			
20	Up group	54	2,70	0,79	-1,324[*]	106	0,188
	Low group	54	2,87	0,48			
21	Up group	54	2,68	0,67	7,756[*]	106	0,000
	Low group	54	1,46	0,95			
22	Up group	54	2,74	0,59	2,182[*]	106	0,031
	Low group	54	2,43	0,88			
23	Up group	54	2,87	0,44	1,181	106	0,240
	Low group	54	2,74	0,68			
24	Up group	54	2,94	0,30	4,194[*]	106	0,000
	Low group	54	2,35	0,99			
25	Up group	54	2,93	0,26	4,457[*]	106	0,000
	Low group	54	2,41	0,81			
26	Up group	54	2,83	0,57	0,349	106	0,728
	Low group	54	2,80	0,53			
27	Up group	54	2,84	0,41	3,603[*]	106	0,000
	Low group	54	2,35	0,93			
28	Up group	54	2,89	0,37	1,946	106	0,054
	Low group	54	2,67	0,75			
29	Up group	54	2,89	0,42	1,241	106	0,217

	Low group	54	2,76	0,64			
30	Up group	54	2,85	0,49	1,502[*]	106	0,014
	Low group	54	2,56	0,72			
31	Up group	54	2,85	0,45	2,284[*]	106	0,024
	Low group	54	2,56	0,84			
32	Up group	54	2,94	0,30	0,852	106	0,396
	Low group	54	2,89	0,37			
33	Up group	54	2,91	0,29	4,375[*]	106	0,000
	Low group	54	2,37	0,85			
34	Up group	54	2,63	0,59	4,191[*]	106	0,000
	Low group	54	2,07	0,77			
35	Up group	54	2,72	0,63	3,339[*]	106	0,001
	Low group	54	2,22	0,90			
36	Up group	54	2,81	0,55	6,203[*]	106	0,000
	Low group	54	1,83	1,02			
37	Up group	54	2,85	0,45	2,094[*]	106	0,039
	Low group	54	2,59	0,79			
38	Up group	54	2,85	0,45	1,196	106	0,235
	Low group	54	2,72	0,66			
39	Up group	54	2,78	0,54	3,918[*]	106	0,000
	Low group	54	2,18	0,97			
40	Up group	54	2,81	0,55	2,390[*]	106	0,019
	Low group	54	2,50	0,79			
41	Up group	54	2,85	0,56	2,858[*]	106	0,005
	Low group	54	2,44	0,88			
42	Up group	54	2,91	0,40	0,997	106	0,321
	Low group	54	2,81	0,55			
43	Up group	54	2,89	0,42	1,258	106	0,211
	Low group	54	2,74	0,76			
44	Up group	54	2,91	0,40	2,131[*]	106	0,035

	Low group	54	2,67	0,73			
45	Up group	54	2,81	0,55	1,769	106	0,080
	Low group	54	2,59	0,74			
46	Up group	54	2,91	0,40	3,149*	106	0,002
	Low group	54	2,44	1,00			
47	Up group	54	2,85	0,49	4,719*	106	0,000
	Low group	54	2,15	0,98			
48	Up group	54	3,00	0,00	2,461*	106	0,015
	Low group	54	2,78	0,66			
49	Up group	54	2,93	0,33	2,437*	106	0,016
	Low group	54	2,63	0,83			
50	Up group	54	2,80	0,45	3,218*	106	0,002
	Low group	54	2,41	0,76			

*$p<0,05$ $p<0,05$

As it can be observed from table 2, there was a significant difference of 0.05 between the item points mean of low-up groups for the items 2, 4, 6, 7, 8, 9, 10, 11, 12, 1, 4, 15, 16, 18, 19, 20, 21, 22, 24, 25, 27, 30, 31, 33, 34, 35, 36, 37, 39, 40, 41, 44, 46, 47, 48, 49, and 50.However, for the 20th item, the item point mean of the low group (2,87) was higher than the item point mean of the up group (2,70).This significant point had to be taken into consideration since it indicates that item 20 measures a process which was totally in the opposite direction of the backward inferring process. Therefore, item 20 was eliminated from the standard form. The item mean point of the low group was also higher than the item mean

points of the up group for the 5th and the 17th items. Consequently, these items could also be counted as irrelevant items which made reverse distinction.

After the study of internal consistency, correlation based analysis was applied to the second form in the way it was applied to the first form.

The Pearson Moments Product Correlation Coefficient was used while calculating the item-total correlation for item points and total points were accepted as permanent variables (Baykul 1996). The results of item-total point correlations for the second form are given in table 4.

Table 4: Item-total points correlation for the second form

Item No	1	2	3	4	5	6	7	8	9	10	11	12
r_{XY}	0,09	0,23	0,02	0,41	-0,03	0,28	0,27	0,17	0,25	0,30	0,31	0,16
Item No	13	14	15	16	17	18	19	20	21	22	23	24
r_{XY}	0,03	0,31	0,50	0,15	-0,11	0,13	0,03	-0,11	0,40	0,14	0,06	0,35
Item No	25	26	27	28	29	30	31	32	33	34	35	36
r_{XY}	0,24	0,06	0,25	0,21	-0,02	0,14	0,08	-0,03	0,23	0,25	0,15	0,33
Item No	37	38	39	40	41	42	43	44	45	46	47	48
r_{XY}	0,20	0,02	0,23	0,13	0,23	0,05	0,22	0,18	0,13	0,27	0,33	0,18
Item No	49	50										
r_{XY}	0,20	0,11										

Table 4 indicates that, items 2, 4, 6, 7, 9, 10, 11, 14, 15, 21, 24, 25, 28, 33, 36, 39, 43, 44, 46, and 47 gave high correlation to total points. The items which both showed significant difference between the point means of the low-up groups and gave high correlation to total points were selected for the final form. Although the t-test results according to the internal consistency norm were meaningful for the items 8, 12, 16, 18, 19, 20, 24, 27, 30, 31, 34, 35, 37, 40, 41, 48, 49, and 50, they were not taken to the final form since it had been observed that they did not give high correlation to item points.

After the completion of the item analysis, validity and reliability studies were applied to the second form which consisted 20 items. Cronbach α coefficient was used for the reliability studies (Baykul, 2000). The reliability of the second form (20 short story frames) was 0,74 and it could be said that this reliability coefficient was high enough for the final test.

After the reliability analysis of the form, factor analysis was done in order to test the validity of the second form.

The screen plot of eigen values of the 20 item second form is revealed in figure 2.When the screen plot of eigen values is examined, it can be observed that the eigen value of the first factor ($\lambda_2=1,422$) is greater than the eigen value which belongs to the second factor ($\lambda_2=1,526$). Furthermore, there is not a significant difference among the eigen values of the factors. For this reason, the form can be counted as a single-dimensional form according to the results of 20 item final form.
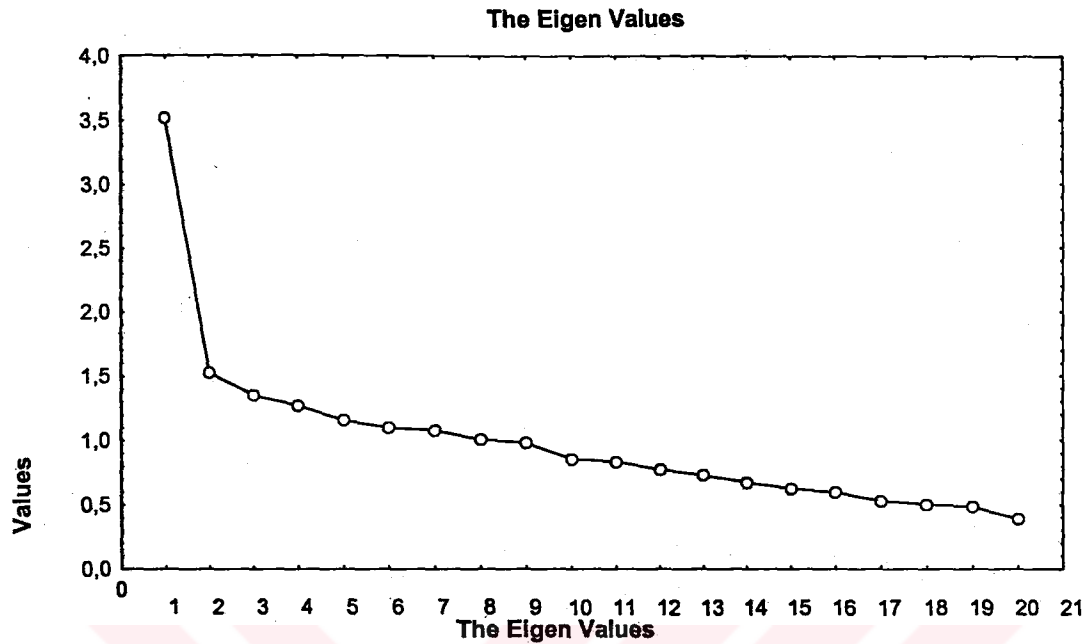
The Eigen Values

Figure 2: Screen plot eigen values of the 20 item standard form.

After the appropriate items from the second form had been chosen, the application

of the standard test was implemented.

Answers to the sub-problems of the research were seeked with the help of the data

obtained from the application.

II.3 The Implementation of the Standard Tests

In this research two kinds of research materials were used. Short story (second

standard form) frames to determine the level of backward inference process and multiple

choice question (first standard form) frames with two choices which served for the same purpose. However, the latter had questions and choices guiding the students to draw backward inferences. Therefore, these two different kinds of research materials gave us the opportunity to observe the difference in the level of drawing backward inferences; between the case when the students were orientated and the case when they were not.

II.3.1 Implementation of the Standard Test 1 (multiple choice test)

The copies of the standard versions of the test were distributed to the students of the non-randomly chosen classes. The standard form of multiple choice questions was consisted of seventeen items (Appendix III). The students were informed about how to answer the questions. They were given twenty minutes for seventeen questions and some examples were done with the students in order to guide them and make the unfamiliar question types familiar for them. Then, the students were expected to circle the best answer for the questions. In order to circle the answer, subjects had to read a passage with two sentences (a) and (b) and a question related to that passage: The aim of the question in each frame was to make the student figure out the backward inference process between the sentences (a) and (b).

II.3.2 Implementation of the Standard Test 2 (short story frames) The

standard version of the material was again distributed to the students (Appendix IV). The

students were informed about how to fill in the missing steps in the frames and some

examples were done in the class. The main aim in doing some examples was to illustrate the

students how their logic had to work while linking the sentences since this was a kind of issue

which was unfamiliar to them. They were given forty minutes for twenty frames and were

expected to read the first (a) and the second (b) sentences and then link these sentences by

writing a third sentence (c) to the sentence (d) which is a result of (a), (b), and (c).The

procedure was exactly the same for the frames consisted of three sentences (a),(b), and (c).

II.4 Scoring the Standard Material

Firstly, some descriptive statistics were calculated (both for the multiple choice

frames and the short story frames).Secondly, it was examined if there were any differences

between the scores the students got from the two forms. Two score tables which had been

used for scoring pilot forms were also used for scoring the standard forms.

II.4.1 Scoring the First Standard Form

The multiple choice test was scored according to a score table used for the pilot

study. The answers of the students for this material were marked on a table in terms of full

points (2 points), half points (1 point), zero point (0 point).An answer was counted as full

points (2) if the best answer had been circled by the student. An answer was scored as half

points (1) when the wrong choice had been circled and when a question was not answered,

zero (0) point was given to that unanswered question as illustrated below.

14.

a. Kaan misafir odasında top oynuyordu.

(Kaan was playing ball in the guest room)

b. Bir süre sonra elinde cam parçalarıyla gizlice odadan çıktı.

(Some time later, he sneaked from the room with some pieces of glass in his hand)

Soru: Kaan neden misafir odasından gizlice çıktı?

Question: Why did Kaan sneak from the guest room?

a. Bir şeyler kırdığı için.

(Because he broke something)

b. Annesinin geldiğini sandığı için.

(Because he thought his mother was coming)

(Appendix III)

The best answer to be circled for this question is (a).Therefore, if the right answer (a) was

circled then that question was scored as full points (2).If the student circled (b) then that

question was given half points which was (1).And, if none of the answers ('a' or 'b') was

circled then that question was given (0) point.

II.4.2 Scoring the Second Standard Form

The score table used for the pilot study was used for scoring the standard test. The answers of the students were marked on the score table in terms of full points (3 points), half points (2 points), half points (1 point),and zero point (0 points). For example, an answer was marked 3 points if the student had reached the target answer that had been aimed by the researcher. An answer which was not completely right (not the target answer),yet very close to the target answer was marked 2 points. An answer which was completely away from the target answer was given 1 point. Even a completely remote answer to the target answer was marked 1 since an effort was made to interpret the frame with respect to backward inference process. Therefore, that answer, even though it could be called wrong had to differ from the unanswered one. And, when there was no answer for a frame then that was given 0 point. The following examples (Appendix IV) clarify the scoring process.

15.

a. Çocuklar evleri soğuk olduğu için üşüyorlardı.

(The children were cold because their house was cold)

b. Akşam babaları bir çuval odun getirdi.

(Their father brought a sack of wood in the evening)

c.

d. Çocuklar sıcacık uyudular.

(The children had a very warm sleep)

The target backward inference for (15) is "odunları yaktılar" (they burned the wood). Therefore, the students who inferred this answer or an answer which had a parallel meaning to this such as "anneleri sobayı yaktı" (their mother set the stove) or "sobayı yaktılar" (they set the stove) was scored as (3). And answers which were not completely right, yet very close to the target answer were marked 2 points. That is to say, an answer like " ev buz gibiyken odunlarla sıcacık oldu" (the cold house became warm with the wood) was given (2) points. And completely wrong answers like "çocuklar ısındılar" (the children got warm) or "çok sevindiler" (they got very happy) or "çok ısındılar üşümeleri geçti" (they got very warm that their cold was gone) were marked with (1) point.

16.

a. Feyyaz kurabiye kutusunu açtı.

(Feyyaz opened the cookie box)

b.

c. Feyyaz kutuyu kaparken dudaklarını yalıyordu.

(Feyyaz was licking his lips while he was closing the box)

Target backward inference: Feyyaz kurabiye yedi (Feyyaz ate some cookies)

Right answers (3 points): "Tüm kurabiyeleri yedi "(He ate all the cookies) or "Kurabiyeleri iştahla yedi" (He ate the cookies with an appetite).

Answers close to the target answer (2 points): "Güzel kurabiyeleri görünce reddedemedi" (He couldn't resist the fancy cookies when he saw them) or "Kurabiyeleri görünce dayanamadı" (He couldn't help when he saw the cookies).

Completely wrong answers (1 point): "Kurabiyeyi çok beğendi" (He liked the cookie very much) or "Kurabiyelere baktı" (He looked at the cookies).

17.

a. Meliha kirli çamaşırları çamaşır makinesine koydu.

(Meliha put the laundry in the washing machine)

b. Meliha çamaşır makinesini kurdu.

(Meliha set up the washing machine)

c.

d. Bir süre sonra çamaşırları makineden çıkarırken her şey mis gibi kokuyordu.

(After some time, everything had a fragrant smell while she was getting the laundry from the washing machine)

Target backward inference: Çamaşırlar yıkandı (The laundry was washed)

Right answers (3 points): "Çamaşır yıkandı" (The laundry was washed) or "Meliha çamaşırları yıkadı" (Meliha washed the laundry).

Answers close to the target answer (2 points): "Elbiseler yıkanmaya başladı" (The dresses were begun to be washed) or "Çamaşırlar iyice temizlendi" (The laundry got completely clean).

Completely wrong answers (1 point):"Çamaşır makinesini açtı" (She opened the washing machine) or "Ve makina çalışıyordu" (And the washing machine was on).

18.

a. Kaan harçlığını cebine koyup bakkala gitti.

(Kaan put his pocket money in his pocket and went to the grocery)

b. Bakkaldan bir cips istedi.

(He asked for a packet of chips)

c.

d. Bakkaldan çıkarken yeni bir tasosu vardı.

(He had a new taso when he was getting out of the grocery)

Target backward inference: Cipsten bir taso çıktı. (A new taso came out of the chips).

Right answers (3 points): "Cipsin içinden taso çıktı" (A new taso came out of the chips) or "Cipsi açıp içindeki tasoyu aldı" (He opened the chips and took the taso).

Answers close to the target answer (2 points): "Cipsi açınca gördüğüne çok sevindi" (He became very happy for the thing he saw when he opened the chips) or "cipsi açtı ve içinde taso varmı diye control etti" (He opened the chips and checked the package if there was a taso in it).

Completely wrong answers (1 point): "Cipsi açtı" (He opened the chips) or "Parayı verdi" (He gave the money)

And then, the total score, the score of targeted answers, the score of semi-right answers, the score of wrong answers were calculated.

II.5 Statistical Analysis of the Standard Tests

The package programs EXCEL (7,0), SPSS (10,0) and STATISTICA (5.0) were used for the statistical analysis of the data obtained from the standard tests and also for drawing the graphs for these tests.

Since the number of the items and scoring the items were not the same in the two standard tests, the tests were equalized in order to compare the results obtained from these tests. Thus, the linear transformation was applied to the results of the tests which is used to equalize the points of the two different tests that are scored separately (Croker and Algina,1986).

$Y^* = a(X-c)+d$
Transformation formula...

$a = \sigma_Y / \sigma_X$ *Standard Deviation rate of Y and X*

$c = \mu_X$ *X mean*

$d = \mu_Y$ *Y mean*

The linear transformation was used in to convert the data obtained from separate materials which were scored differently. The equality illustrated above is one of these transformation methods. The main goal was reaching the transformation equation by predicting the model seen in the above equality. X represented the scores obtained from the short story frames and Y represented the scores obtained from the multiple choice test. The linear transformation was realized and a new dispersion in scoring was obtained with the help

of the mean and standard deviation of X and Y points. The final point dispersion X was used

for the second form.

After equating the tests, the difference between the scores obtained from the tests

were tested with the t test for the related samplings (Baykul, 1997).

$$t = \frac{\left(\overline{X}_1 - \overline{X}_2\right)}{S_d / \sqrt{n}}$$

$\overline{X}_1$: *The mean of the scores of the first test*
$\overline{X}_2$: *The mean of the scores of the first test*
$\overline{X}_2$: S_d: *The standard deviation of the dispersion of the scores obtained from the tests*
N: Size of the sampling

CHAPTER III

FINDINGS and DISCUSSION

This chapter will include the descriptive analysis of the multiple choice standard test, the descriptive analysis of the short story frames standard test and the comparison of the results obtained from two standard research materials.

III.1 The Descriptive Analysis of the Multiple Choice Standard Test

The first sub-problem of our research, " what is the level of drawing bridging inferences of the elementary school fifth grade students when the expected inference is given as multiple choice items?", is tried to be answered with the help of the analysis of the results of the first standard test.

The descriptive statistics of the level of drawing backward inferences of the elementary school fifth grade students when the expected inference is given as multiple choice items can be examined in table 5.

The maximum point that a student can get from this test was 34 since each completely correct answer is given (2) points.

Table 5 : Descriptive Statistics of Multiple Choice Standard Test

N (Number of Samples)	200
The Highest Point (Maximum)	34
The Lowest Point (Minimum)	26
Mean	30,69
Standard Deviation	1,817
Mode	31,00
Median	31,00
Kurtosis	-0,533
Skewness	-0,263
Conditional Variation Coefficient	5,922

According to table 5, 200 students answered the multiple choice test. The highest score is 34, and the lowest score is 26. It can also be seen that the mean of the test is high ($\overline{X}$=30,69) when the maximum point a student could get from the test is considered. The standard deviation of the test is low (S=1,817) .These results indicate that score dispersion of the test is homogeneous. The median and the mode of the score dispersion is 31,00.When the arithmetical mean which is close to this value is taken into consideration, it can be said that the score dispersion obtained from the multiple choice test is symmetrical. The dispersion has a tendency of being a little bit more flat and crooked towards left compared to regular values when the skewness and kurtosis are examined. Thus, it can be said that fifth grade elementary school students are capable of drawing backward inferences successfully when their drawing backward inferences is tested by the help of multiple choice tests.

However, the dispersion can be accepted as a regular symmetric distribution since these values are very close to 0,000.The graph of multiple choice score dispersion is given in figure 3.

Figure 3: The Graph of Score Dispersion of Multiple Choice Test
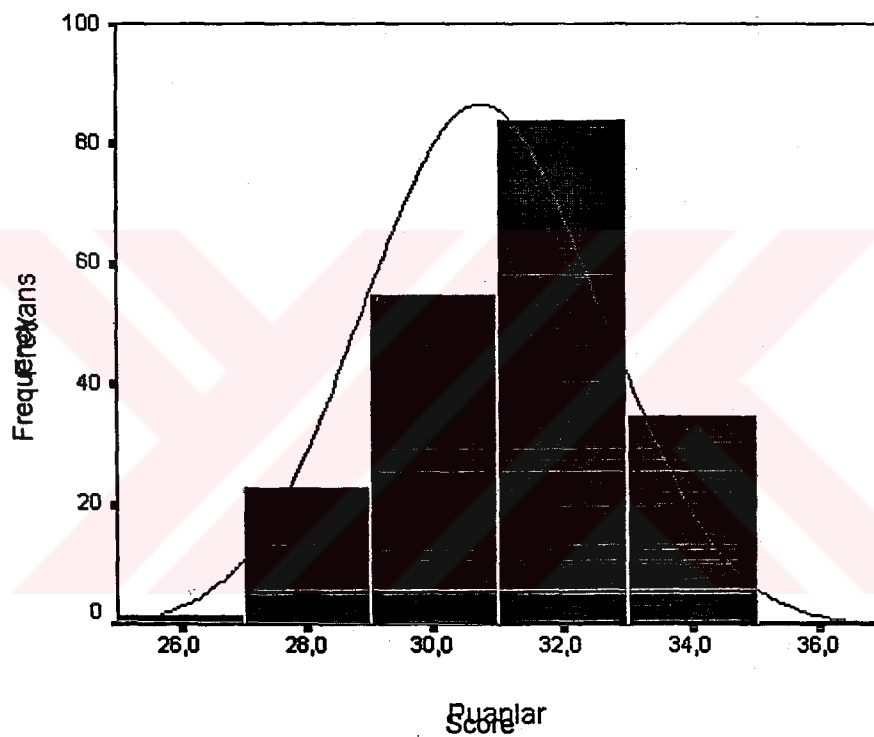
When figure 3 is examined, it can be said that the dispersion is very close to regular symmetric dispersion.

III.2 The Descriptive Analysis of the Short Story Frames Standard Test

The second sub-problem of our research is:

What is the level of drawing bridging inferences of the elementary school fifth grade students when they are expected to write the expected inferences themselves?

The descriptive statistics of the data obtained from the elementary school fifth grade students when they are expected to write the expected inference themselves are given in table 6.

Table 6: Descriptive Statistics of the Second Standard Test

N (Number of Samples)	200
The Highest Score (Maximum)	58
The Lowest Score (Minimum)	25
Mean	50,09
Standard Deviation	4,720
Mode	52,00
Median	51,00
Kurtosis	3,725
Skewness	-1,225
Conditional Variation Coefficient	9,423

For this standard test, the maximum point that a student can get is 60. According to the table 6, 200 students answered the second standard test. The highest score is 58 and the lowest score is 25. Since the maximum point which could be taken from the test is 60, it can

be said that the mean score of the testis high ($\overline{X}$= 50.09). Therefore, the fifth grade elementary school students are also successful in drawing backward inferences when they are expected to write down their own linguistic output as inferences.

When the mean of the test (50,09), and the standard deviation is (4,720), the median (51,00) and the mode (52,00) values are taken into account, we can say that the values are very close to one another. For this reason, the distribution is not symmetrical and the mean 50,09 pulls the distribution towards left. As a matter of fact, skewness (Ky=-1,225) proves that the distribution is crooked towards left. It is observed that the distribution is more pointed than normal when the kurtosis is (Bs=3,725) examined. The graph related to the short story frames standard test is given in figure 4.

When table 5 and table 6 are examined together, they indicate that the conditional variation coefficient is different for the multiple choice test and for the second test and the variation of the multiple choice test (V=5,984) is lower than the short story frames test variation (V=9,423). In other words, the scores obtained from the multiple choice test is more homogeneous compared to the second test. The reason for this is that the students had two alternatives to be chosen. Moreover, while the multiple choice test scores reveal an almost symmetric regular dispersion, second standard test points show an obvious crookedness towards left and a dispersion more pointed than regular. This situation can be clearly observed from figure 3 (multiple choice test) and from figure 4 (short story frames).
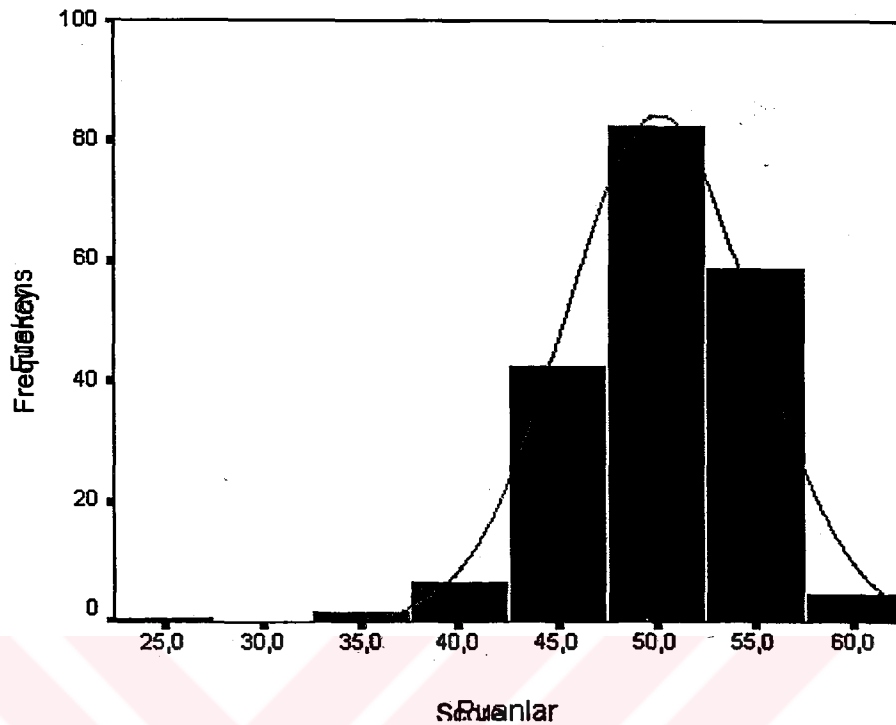
Figure 4: Graph of the Score Distribution of Short Story Frames Standard Test

III.3 Comparison of the Results Obtained from the Two Standard Tests

Firstly, in order to test whether there is a significant difference between the results

of the first test and the second test, the results of the two standard tests are equated with the

help of linear transformation. Secondly, related samplings are tested with t test in order to

examine if there is a difference between the means or not. The obtained results are illustrated

in table 7.

Table 7: Comparative t Test Results of Short Text Test and Multiple Choice Test

Tests	N	Mean	Standard Variation	t	sd	p
Multiple Choice Standard Test	200	30,69	1,82	0,256	199	0,798
Short Story Frames Standard Test	200	30,70	1,83			

As it can be observed from table 7, there is not a significant difference between the multiple choice test and short story frames test. The difference between the score means of the tests is (α=0,05). This means that giving the inferences in a multiple choice test and expecting the students to circle the right inference or expecting the students to write down the inferences themselves do not make a statistically significant difference in the students' success of drawing backward inferences. They can also do well when they are expected to write their inferences themselves.

CONCLUSION

The present research aims at describing and determining the level of drawing bridging inferences of the fifth grade elementary school students.The research by Singer et al. (1992) is taken as a sample for the study and the researcher tries to find out the level of drawing backward inferences of the fifth grade elementary school students with the help of three research questions. The determination of the level of bridging inferences in comprehension is tested by two forms related to the research questions. The first research question of the study is: "what is the level of drawing bridging inferences of the fifth grade elementary school students when they are given multiple choice questions?". A seventeen item multiple choice test is used to answer this question. According to the results of the statistical analysis of the data obtained from the multiple choice test, elementary school fifth grade students have been found successful in drawing backward inferences since the maximum point to be taken from the test is 34 and the mean of the test is 30,69. On the other hand, there can be doubts as to the general reliability of multiple-choice tests in measuring the linguistic abilities of students in drawing backward inferences since such tests usually reflect receptive skills of students in terms of their reactions only to the items included in the test, whereas the true linguistic improvement of students is more reliably measured when they are asked to produce their own linguistic output.

For this reason, we try to answer the second research question "What is the level of drawing bridging inferences of the elementary school fifth grade students when they are expected to write the expected inference themselves ?". The statistical analysis of the data obtained from the second standard test has proved that the students are also successful in drawing backward inferences when they are asked to write down the missing premise themselves. The maximum point to be taken from the test is 60 and the mean of the scores that the students get from the test is 50,09. That is to say, the results of the second standard test signifies that when the sample group is invited to produce their own output, their achievement is not negligible. Then, we aim to find out whether there was a difference between the answering tendencies of the students when they were invited to produce their own linguistic output and when they were given a multiple choice test. And when the statistical results of the first form and the second form are compared, no significant difference was found. That is to say, the sample group is successful both in the first test and the second test. The reason of all these findings can be relate to the nature of the tests implemented. However, we try to take the students' age, characteristics, interest and world knowledge into consideration for the tests developed for the research. All the items in the test reflect the discourse the students may encounter in their daily communication. Marzano et al. state that building bridges is possible when the reality beyond the conveyed meaning is comprehended (1988). The fifth grade students prove that they have the ability of such comprehension when

the material they encounter is appropriate to their level. Of course, the results can only be valid within the limitations of this study. Further research can be conducted in order to take different variables into consideration in drawing bridging inferences. For example, the capacity of students in drawing backward inferences can be tested with the texts which they may encounter in the course books they use or a similar study might be done with a different age group, using appropriate tests to their level. One of the most important understander factors of inference processing is age (Singer, 1994). And, if such a study is conducted, it will shed light more comprehensively upon the development of drawing backward inferences with respect to age. Understander factors which can be assembled as processing capacity, age, world knowledge, orienting tasks in comprehension (Singer, 1994), goal (Van Den Broek, 2001), and language proficiency (Zwaan and Brown,1996) play a very important role in inference processing. The present study takes world knowledge, language proficiency and age into consideration in the preparation of the tests. And the sample group of the study comes from a high socioeconomic class. Other studies can also be conducted by implementing the tests to groups of other socioeconomic classes. For example, in order to determine the language proficiency through bridging inferences, depending on the socioeconomic status, the very same study can be applied to sample groups which belong to another socioeconomic classes. And it can be observed that whether the socioeconomic status affects the language proficiency in terms of drawing backward inferences or not.

Besides the understander factors, there are other factors that effect inference processing. These factors are theme, distance, discourse affordances and interestingness. For our study, we expect the sample group to write down or choose their backward inferences within a single text. This means near condition (distance) is taken into consideration (Singer, 1994). Moreover, the items in our tests are formed in such a way that the sample group perceives the texts as series of connected events or facts rather than isolated statements (discourse affordances) (Van Den Broek et al.,2001). Further studies for the same age group can be conducted by taking the other (theme, far condition, and interestingness) factors which affect the inference processing into consideration.

As a conclusion, despite of the fact that mother tongue education in Turkey is insufficient at many levels (primary, secondary) (Göğüş, 1993 and Özdemir, 1983), our sample group is found to be successful in drawing backward inferences within the limitations of the study. The importance of qualified mother tongue education is undoubted in the development discourse processing. The infants who put forward such a faculty without given specific instructions can easily be better processors with a qualified education. And this can be possible with education materials and text organization which take the backward inference process of the infants into consideration. Starting from this point, other research can be done to test whether the available texts in the school course books help the students draw inferences or limit them.

BIBLIOGRAPHY

Anderson, Richard, C., Reynolds, Ralph, E., Schallert, Diane,T.,Goetz, Ernest,T. (1977) Frameworks for Comprehending Discourse. *American Educational Research Journal,*14.367-381.

Baddeley, Amis.D. (1986). *Working Memory* (Oxford psychology series.vol.2). Oxford:Oxford University Press.

Bartlett,F.C.(1932) .*Remembering.*Cambridge:CUP.

Baykul, Yaşar (1997). *İstatistik- Metodlar ve Uygulamalar.* Ankara: Anı Yayıncılık.

Baykul, Yaşar (2000). *Eğitimde ve Psikolojide Ölçme: Klasik Test Teorisi ve Uygulamaları.* Ankara: ÖSYM Yayınları.

Brown,Gillian & Yule,George (1983). *Discourse Analysis.* Cambridge:CUP

Cohen,R.Morris & Nagel,Ernest (1962).*An Introduction to Logic and Scientific Method.*

Coulthard,Malcolm.(1977). *An Introduction to Discourse Analysis.* NY:Longman.

Eysenk,Michael,   W.   &   Keane,   M.   T.   (1996).*Cognitive Psychology.*London:Psychology Press.

Finch,Geoffrey.(2000).*Linguistic Tterms and Concepts*.London:Mcmillan Press

Göğüş, B.(1993). *"Türkçe Öğretimine Genel bir Bakış", İlköğretim Okullarında Türkçe Öğretimi ve Sorunları.*Ankara:TED.

Hambleton, Ronald. K. & Swaminathan, Hariharan. (1992). *Item Response Theory: Principles and Application.* Boston: Kluwer Academic Publishers Group.

Haviland, Susan.E &. Clark, Herbert.H. (1974).What is new? Acquiring New Information as a Process in Comprehension. *Journal of Verbal Learning and Verbal Behavior* 13,512-521.

Haviland, Susan.E. & Clark, Herbert.H. (1977). *Discourse Production and Comprehension.* Hillsdale,NJ:Erlabaum

Hayakawa, S.İ . (1978). *Language in Thought and Action.*NY:Harcourt Brace.

Kintsch,Walter (1974). *The Representation of Meaning in Memory.* Hillsdale,NJ: Erlbaum.

Lascarides,A. & Asher,N.(1993).Temporal Interpretation, Discourse Relations and Common Sense Entailment. *Linguistics & Philosophy,*16,5,437-493.

Levinson, Stephan C.(1983). *Pragmatics.* Cambridge :CUP.

Marzano, Robert J., Brandt, Ronald S., Hughes, Carolyn Sue, Jones,Beau Fly,Presseisen, Barbara Z., Rankin, Stuart C. & Suhor,Charles (1988). Dimensions of Thinking :*A Framework for Curriculum and Instruction.*Virginia:ASCD.

Iza, Mauricio & Ezquerro,Jesus (2000).Elaborative Inferences. *Anales de Psicologia* 16. 227-249.

McKoon,Gail & Ratcliff,Roger (1986). Inferences About Contextually Defined Categories. *Journal of Experimental Psychology:Llearning, Memory and Cognition* 15,1134-1146.

McKoon,Gail & Ratcliff,Roger (1992). Inference During Reading. *Psychological Review* 99, 440-466.

O'Brian, Edward J.,Schank,D.M.,Mayers, J.L., & Rayner, K. (1988). Elaborative Inferences During Reading:Do They Occur On Line?. *Journal of Experimental Psychology: Learning, Memory and Cognition* 14,410-420.

Özdemir,E. (1983). Anadil Öğretimi.*Türk Dili :Dil Öğretimi Özel Sayısı, 18-30.*

Renkema,Jan (1993). *Discourse Studies: An Introductory Textbook.* Amsterdam:John Benjamin.

Rickheit, Gert, Schnotz,Wolfgang & Strohner, Hans (1985) *.Inferences in Text Processing.* Amsterdam:ESP

Sanford,Anthony,J., & Garrod,Simon,C.,(1981) *.Understanding Written Language.* New York:John Wiley.

Schank,R.C.(1977). Rules and Topics in Conversation. *Cognitive Science* 1,421-442.

Shannon,C. & Weaver,W.(1949).*The Mathematical Theory of Communication.* Urbana: University of Illinois Press.

Singer, Murray & Ferreira, Fernanda (1983). Inferring Consequences in Story Comprehension. *Journal of Verbal Learning and Verbal Behavior* 22,437-448.

Singer,Murray, Halldorson, Michael, Lear, Jeffrey L. & Andrusiak, Peter (1992). Validation of Casual Bridging Inferences in Discourse Understanding. *Journal of Memory and Language* 31, 507-524.

Sperber, Dan & Wilson,Deirdre (1986). *Relevance: Communication and Cognition.* Oxford:Basil Blacwell.

Tatlidil, Hüseyin (1996). *Uygulamalı Çok Değişkenli İstatistiksel Yöntemler.* Ankara.

Tezbaşaran, Ata (1997). *Likert Tipi Ölçek Geliştirme Kılavuzu.* Ankara: Türk Psikologlar Derneği Yayınları.

Van Den Broek,Paul, Lorch,Jr.,Robert F.,Linderholm, Tracy & Gustafson, Mary (2001). The Effect of Readers' Goals on Inference Generation and Memory for Texts. *Memory and Cognition* 8,1081-1087.

Van Dijk, Teun A. & Kintsch, Walter (1983). *Stragedies of Discourse Comprehension:* Academic Press.

Whitney, Paul.(1986). Processing Category Names in Context: Instations as Inferences. *Memory and Cognition* 14,39-48.

Zwaan,Rolf A. and Brown Carol M. (1996) .The Influence of Language Proficiency and Comprehension Skill on Situation-Model Construction. *Discourse Processes* 21,289-302.

APPENDIX I

1.

   a. Ayşe Hanım taze ekmeği dilimlemeye çalışıyordu.

   b. Eli ve ekmek bir anda kanlar içinde kaldı.

Soru:Neden Ayşe Hanım'ın eli ve ekmek kanlar içinde kaldı?

   a) Ekmeği dilimlemeye çalışırken elini kestiği için.

   b) Masada duran ete elini çarptığı için.

2.

   a. Kaan oyuncak tabancasını duvara fırlattı.

   b. Annesi ona yeni bir tabanca almayacağını söyledi.

Soru:Kaan'ın tabancasına ne oldu?

   a) Annesi elinden aldı

   b) Kırıldı

3.

   a. Ahmet televizyonda Örümcek Adam'ı seyretmeye bayılır.

   b. Her pazartesi saat 5'de televizyonun karşısına geçer.

Soru: Ahmet neden her pazartesi saat 5'de televizyonun karşısına geçer?

   a) Örümcek Adam'ı seyretmeye bayıldığı için.

   b) Televizyon seyretmeyi çok sevdiği için.

4.

   a. Kaan nezleydi ve burnu tıkalıydı.

   c. Paketin içinden aldığı mendili çöpe atarken daha rahat nefes almaya başlamıştı.

Soru:Kaan neden rahat nefes almaya başladı?

   a) Nezlesi geçtiği için.

b) Burnunu sildiği için.

5.

a. Feyyaz giden otobüsün arkasından koştu.

b. Nefes nefese şoförün arkasına oturdu,parasını uzattı.

Soru: Feyyaz otobüse yetişebildi mi?

a) Evet

b) Hayır

6.

a. Kaan misafir odasında top oynuyordu.

b. Bir süre sonra elinde cam parçalarıyla gizlice odadan çıktı.

Soru: Kaan neden misafir odasından gizlice çıktı?

a) Bir şeyler kırdığı için.

b) Annesinin geldiğini sandığı için.

7.

a. Serpil sınıfta söz almak için parmak kaldırıp duruyordu.

b. Serpil'in ayağa kalkıp anlattığı konu çok önemliydi.

Soru: Serpil söz alabildi mi?

a) Hayır.

b) Evet.

8.

a. Efe ile Özge okuldan çıktıklarında yağmur iyice hızlanmıştı.

b. Eve vardıklarında kıyafetlerini değiştirmek zorunda kaldılar.

Soru: Efe ile Özge neden kıyafetlerini değiştirdiler?

a) Kıyafetleri ıslandığı için

b) Okulda kıyafetleri kirlendiği için.

9.

a. Öğretmen problemi çözmek için Kaan'ı tahtaya kaldırdı.

b. Kaan yerine otururken çok üzgündü.

Soru: Kaan neden üzgündü?

a) Problemi çözemediği için.

b) Öğretmeni ona yardım etmediği için.

10.

a. Ali eve geldiğinde eli yüzü kir içindeydi.

b. Banyodan çıkarken mis gibi kokuyordu.

Soru: Ali neden mis gibi kokuyordu?

a) Temiz giysiler giydiği için.

b) Yıkandığı için.

11.

a. Yemekte bamya vardı.

b. Kaan tabağa hiç dokunmadan masadan kalktı.

Soru: Kaan neden tabağına hiç dokunmadı?

a) Bamya sevmediği için.

b) Karnı aç olmadığı için.

12.

a. Asuman Pazar günü buz gibi havada sokakta oynadı.

b. Pazartesi günü okula gidemedi.

Soru: Asuman neden okula gidemedi?

a) Hava çok soğuk olduğu için.

b) Hastalandığı için.

13.

a. Ahmet okuldan çıktığında iştahla pastanenin vitrinindeki pastalara baktı.

b. Eve gittiğinde ağzı burnu çikolata içindeydi.

Soru: Ahmet çikolatalı pasta yiyebildi mi?

a) Evet.

b) Hayır.

14.

a. Sevgi'nin birinci dönem matematik notu karnesinde zayıftı

b. İkinci dönemin sonunda annesine karnesindeki matematik notunu sevinçle gösterdi.

Soru:Sevgi neden sevinçliydi?

a) Dönem sonunu geldiği ve tatile gireceği için.

b) Matematik notu düzeldiği için.

15.

a. Pazarcı, sabah erkenden tezgahına elmaları dizdi.

b. Akşam tezgahını toplarken kazandığı paraları sayıyordu.

Soru:Pazarcı nasıl para kazandı?

a) Pazara erken geldiği için.

b) Elmaları sattığı için .

16.

a.O gün, Hakan'ın doğum günüydü.

b.Elinde kocaman bir paketle eve giren babasını görünce çok sevindi.

Soru: Hakan neden çok sevindi.

a) Babası eve geldiği için.

b) Babası ona hediye aldığı için.

17.

a. Balıkçılar sabah erkenden ağlarını denize bıraktılar.

b. Akşam ağırlaşan ağları zorla çektiler.

Soru:Ağlar neden ağırlaşmıştı?

a) Balıkla doldukları için.

b) Bütün gün suda kaldıkları için.

18.

a. Bu gün,bozulan çamaşır makinesi için eve tamirci geldi.

b. Tamirci giderken ,annem çok teşekkür etti.

Soru: Annem neden tamirciye teşekkür etti?

a) Annem,arar aramaz eve geldiği için.

b) Çamaşır makinesini tamir ettiği için.

19.

a. Ali su dolu sürahiyi taşırken ayağı takıldı.

b. Birden her yer sırılsıklam oldu.

Soru: Her yer neden sırılsıklam oldu?

a) Su döküldüğü için

b) Sürahi kırıldığı için.

20.

a. Seda yemek masasına oturdu.

b. Masadan kalkarken tabağı bomboştu.

Soru: Seda'nın tabağı neden bomboştu?

a) Seda tabağına hiç yemek almadığı için.

b) Seda yemeğini bitirdiği için.

21.

a. Kirlenen ayakkabılarımı ayakkabı boyacısına götürdüm.

b. Dükkandan çıkarken ayakkabılarım pırıl pırıldı.

Soru: Ayakkabılarım neden pırıl pırıldı?

a) Yeni ayakkabı aldığım için.

b) Boyacı ayakkabılarımı boyadığı için.

22.

a. Çok susayan Ceyda çeşmeyi açtı.

b. Çeşmeyi kapatırken 'oh dünya varmış' dedi.

Soru: Ceyda ne yaptı?

a) Su içti.

b) Yüzünü yıkadı.

23.

a. Ayşe bir sepet pantolonu ütü masasına getirdi.

b. Bir saat sonra tüm pantolonlar jilet gibi olmuştu.

Soru: Pantolonlar nasıl jilet gibi olmuştu?

a) Ayşe pantolonları düzelterek katladığı için.

b) Ayşe pantolonları ütülediği için.

24.

a. Feyyaz kurabiye kutusunu açtı.

b. Feyyaz kutuyu kaparken dudaklarını yalıyordu

Soru: Feyyaz neden dudaklarını yalıyordu?

a) Dudakları kuruduğu için.

b) Kurabiye yediği için.

APPENDIX II

Aşağıdaki örnekte görüldüğü gibi 'a' , 'b' ve 'd' tümceleri arasında bu üç tümceyi tamamlayan ve 'd' de belirtilen sonuca yol açan bir basamak olması gerekmektedir.Aşağıdaki örneği göz önünde bulundurarak sorularda verilen 'a','b' ve 'd' tümcelerini okuyunuz.Daha sonra 'a','b' ve 'd' arasındaki basamağı oluşturan 'c' tümcesini boşluklara yazınız.

Örnek:

    a. Ali'nin resimleri duvara asması gerekiyordu.

    b. Alet kutusundan çekici aldı.

    c.

    d. Akşam duvarda yan yana duran resimleri annesine gösterdi.

    (c. Ali resimleri duvara çaktı.)

1.

    a. Kaan nezleydi ve burnu tıkalıydı.

    b.

    c. Paketin içinden aldığı mendili çöpe atarken daha rahat nefes almaya başlamıştı.

2.

    a. Feyyaz'ın annesi mutfaktaydı.

    b. Ocağın başında tencereyi karıştırıyordu.

    c.

    d. Yarım saat sonra herkesi sofraya çağırdı.

3.

    a. Okan'ın ertesi gün sınavı vardı.

    b. Çalışma masasına oturdu.

    c.

    d. İki saat sonra çalışma masasından kalkarken sınav için hazırdı.

4.

    a. Kaan harçlığını cebine koyup bakkala gitti.

    b. Bakkaldan bir cips istedi.

    c.

    d. Bakkaldan çıkarken yeni bir tasosu vardı.

5.

   a. Elif ve annesi otobüste yer bulamayıp ayakta kaldılar.

   b. Onları ayakta gören bir çocuk yerinden kalktı.

   c.

   d. Elif'in annesi gence teşekkür etti.

6.

a. Efe ailesiyle birlikte teyzesine akşam oturmasına gitti.

b. Eve döndüklerinde kapılarının zorla açılmış olduğunu fark ettiler.

c.

d. Efe'nin annesi telaşla polisi aradı.

7.

a. Ayşe okula yetişmek için koşuyordu.

b. Muz kabuğunun üzerine bastı.

c.

d. Ne olduğunu anlamadan kendini yerde buldu.

8.

   a. Eskimolar kutup ayısı avlarlar.

   b. Kutup ayısının kürkünden giysi yaparlar.

   c.

   d. Kutuplar soğuktur.

   e. Bu giysiler onları soğuktan korur.

9.

   a. Engin'in kardeşi bir kutu kibrit bulmuştu.

   b. Mutfakta kibritlerle oynayıp duruyordu.

   c.

   d. Bir süre sonra mutfaktan dumanlar yükselmeye başladı.

10.

   a. Ali sokaktaki sarı kediyi yakalamaya çalışıyordu.

   b. Sarı kedi, birden gelen arabanın önüne atladı.

   c.

    d. Ali ağlamaya başladı.

11.

    a. O gün deniz çok dalgalıydı.

    b. Ayşe o gün arkadaşlarıyla yüzmeye gitti.

    c.

    d. Ayşe boğulma tehlikesi atlattı.

12.

    a. Köpeğimin ayakları çamurluydu.

    b. Bir anda koşup halının üzerinde zıplamaya başladı.

    c.

    d. Konuklar gelmeden önce halıyı temizlemem gerekiyordu.

13.

    a. Kurtlar acıkınca kendilerinden küçük hayvanları avlarlar.

    b. Ormanlar bu küçük hayvanlarla doludur.

    c.

    d. Bu hayvanlarla kurtlar doyar.

14.

    a. Çocuklar evleri soğuk olduğu için üşüyorlardı.

    b. Akşam babaları bir çuval odun getirdi.

    c.

    d. Çocuklar sıcacık uyudular.

15.

    a. Bombardıman uçakları şehrin üzerinde saatlerce uçtu.

    b. Bütün gün onlarca bomba attılar.

    c.

    d. Onlar gittikten sonra şehrin sokakları cesetlerle doldu.

16.

    a. Ali ve arkadaşları yıl sonu gösterisi için bir oyun hazırladılar.

    b. Yıl sonunda oyunlarını sahneye koydular.

    c.

    d. Oyunun sonunda bütün seyirciler onları ayakta alkışladı.

17.

    a. Serap'ın dişleri sapsarı olmuştu.

    b. Diş fırçasına macun sıktı.

    c.

    d. Fırçasını yerine koyarken dişleri parlıyordu.

18.

    a. Vazoda kırmızı güller vardı.

    b. Dilek vazoyu eline aldı.

    c.

    d. Vazoyu yerine koyarken 'oh çiçekler mis gibi' dedi.

19.

    a. Ayhan buzdolabından bir tane elma aldı.

    b. Çekmeceden bir bıçak aldı.

    c.

    d. Elma kabuklarını çöpe atarken elma dilimlerini de tabağa dizdi.

20.

    a. Öğretmen yazılarla dolu tahtaya baktı.

    b. Tahta silgisini aldı.

    c.

    d. Tertemiz olan tahtaya yeniden yazmaya başladı.

21.

    a. Yemekte bamya vardı.

    b.

    c. Kaan tabağa hiç dokunmadan masadan kalktı.

22.

    a. Kaan oyuncak tabancasını duvara fırlattı.

    b.

    c. Annesi ona yeni bir tabanca almayacağını söyledi.

23.

    a. Ayşe Hanım taze ekmeği dilimlemeye çalışıyordu.

    b.

c. Eli ve ekmek bir anda kanlar içinde kaldı.

24.

a. Ali babasıyla arabaya bindi.

a. Kırmızı ışıkta dururlarken arkadan onlara süratle yaklaşan arabayı gördüler.

b.

d. Gözlerini açtıklarında kendilerini hastanede buldular.

25.

a. Feyyaz giden otobüsün arkasından koştu.

b.

c. Nefes nefese şoförün arkasına oturdu,parasını uzattı.

26.

a. Kaan misafir odasında top oynuyordu.

b.

c. Bir süre sonra elinde cam parçalarıyla gizlice odadan çıktı.

27.

a. Serpil sınıfta söz almak için parmak kaldırıp duruyordu.

b.

c. Serpil'in ayağa kalkıp anlattığı konu çok önemliydi.

28.

a. Efe ile Özge okuldan çıktıklarında yağmur iyice hızlanmıştı.

b.

c. Eve vardıklarında kıyafetlerini değiştirmek zorunda kaldılar.

29.

a. Öğretmen problemi çözmek için Kaan'ı tahtaya kaldırdı.

b.

c. Kaan yerine otururken çok üzgündü.

30.

a. Ali eve geldiğinde eli yüzü kir içindeydi.

b.

c. Banyodan çıkarken mis gibi kokuyordu.

31.

    a.   Ahmet televizyonda Örümcek Adam'ı seyretmeye bayılır.

    b.

    c.   Her pazartesi saat 5'de televizyonun karşısına geçer.

32.

    a.   Asuman Pazar günü buz gibi havada sokakta oynadı.

    b.

    c.   Pazartesi günü okula gidemedi.

33.

    a.   Ahmet okuldan çıktığında iştahla pastanenin vitrinindeki pastalara baktı.

    b.

    c.   Eve gittiğinde ağzı burnu çikolata içindeydi.

34.

    a.   Sevgi'nin birinci dönem matematik notu karnesinde zayıftı.

    b.

    c.   İkinci dönemin sonunda annesine karnesindeki matematik notunu sevinçle gösterdi.

35.

    a.   Pazarcı, sabah erkenden tezgahına elmaları dizdi.

    b.

    c.   Akşam tezgahını toplarken kazandığı paraları sayıyordu.

36.

    a.   O gün,Hakan'ın doğum günüydü

    b.

    c.   Elinde kocaman bir paketle eve giren babasını görünce çok sevindi.

37.

    a.   Balıkçılar sabah erkenden ağlarını denize bıraktılar.

    b.

    c. Akşam ağırlaşan ağları zorla çektiler.

38.

    a.   Bu gün,bozulan çamaşır makinesi için eve tamirci geldi.

    b.

    c. Tamirci giderken ,annem çok teşekkür etti.

39.

    a. Ali su dolu sürahiyi taşırken ayağı takıldı.

    b.

    c. Birden her yer sırılsıklam oldu.

40.

    a. Seda yemek masasına oturdu.

    b.

    c. Masadan kalkarken tabağı bomboştu.

41.

    a. Kirlenen ayakkabılarımı ayakkabı boyacısına götürdüm.

    b.

    c. Dükkandan çıkarken ayakkabılarım pırıl pırıldı.

42.

    a. Çok susayan Ceyda çeşmeyi açtı.

    b.

    c. Çeşmeyi kapatırken 'oh dünya varmış' dedi.

43.

    a. Ayşe bir sepet pantolonu ütü masasına getirdi.

    b.

    c. Bir saat sonra tüm pantolonlar jilet gibi olmuştu.

44.

    a. Feyyaz kurabiye kutusunu açtı.

    b.

    c. Feyyaz kutuyu kaparken dudaklarını yalıyordu.

45.

    a. Seda ödevini yapıyordu.

    b.

    c. Silgiye uzandı.

46.

    a. Hasan ile halası, terzinin önüne bir sürü sökük,yırtık,parça parça kıyafet dizdi.

    b.

    c. İki gün sonra kıyafetleri alırken terziye çok teşekkür ettiler.

47.

    a. Meliha kirli çamaşırları çamaşır makinesine koydu.

    b. Meliha çamaşır makinesini kurdu.

    c.

    d. Bir süre sonra çamaşırları makineden çıkarırken her şey mis gibi kokuyordu.

48.

    a. Serdar kalemlerini ve kalem açacağını aldı.

    b. Çöp kutusunun başına gitti.

    c.

    d. Yerine dönerken kalemleri sipsivri olmuştu.

49.

    a. Ayşegül pazara gitti.

    b.

    c. Eve dönerken elleri kolları torbalarla doluydu.

50.

    a. 5-A sınıfı matematik yazılısına girdi.

    b.

    c. Sınavdan çıkarken bütün sınıf ağlıyordu.

APPENDIX III

Aşağıdaki örnekte görüldüğü gibi 'a' , 'b' ve 'd' tümceleri arasında bu üç tümceyi tamaml   ve 'd'
de belirtilen sonuca yol açan bir basamak olması gerekmektedir.Aşağıdaki örneği göz önü
bulundurarak sorularda verilen 'a','b' ve 'd' tümcelerini okuyunuz.Daha sonra 'a','b' ve '   ısındaki
basamağı oluşturan 'c' tümcesini boşluklara yazınız.

Örnek:
   a. Ali'nin resimleri duvara asması gerekiyordu.
   b. Alet kutusundan çekici aldı.
   c.
   d. Akşam duvarda yan yana duran resimleri annesine gösterdi.
   (c. Ali resimleri duvara çaktı.)

1.
   a. Feyyaz'ın annesi mutfaktaydı.
   b. Ocağın başında tencereyi karıştırıyordu.
   c.
   d. Yarım saat sonra herkesi sofraya çağırdı.

2.
   a. Kaan harçlığını cebine koyup bakkala gitti.
   b. Bakkaldan bir cips istedi.
   c.
   d. Bakkaldan çıkarken yeni bir tasosu vardı.

3.
a. Efe ailesiyle birlikte teyzesine akşam oturmasına gitti.
b. Eve döndüklerinde kapılarının zorla açılmış olduğunu fark ettiler.
c.
d. Efe'nin annesi telaşla polisi aradı.

4.
a. Ayşe okula yetişmek için koşuyordu.
b. Muz kabuğunun üzerine bastı.
c.
d. Ne olduğunu anlamadan kendini yerde buldu.

5.
   a. Engin'in kardeşi bir kutu kibrit bulmuştu.
   b. Mutfakta kibritlerle oynayıp duruyordu.
   c.
   d. Bir süre sonra mutfaktan dumanlar yükselmeye başladı.

6.
- a. Ali sokaktaki sarı kediyi yakalamaya çalışıyordu.
- b. Sarı kedi, birden gelen arabanın önüne atladı.
- c.
- d. Ali ağlamaya başladı.

7.
- a. O gün deniz çok dalgalıydı.
- b. Ayşe o gün arkadaşlarıyla yüzmeye gitti.
- c.
- d. Ayşe boğulma tehlikesi atlattı.

8.
- a. Çocuklar evleri soğuk olduğu için üşüyorlardı.
- b. Akşam babaları bir çuval odun getirdi.
- c.
- d. Çocuklar sıcacık uyudular.

9.
- a. Bombardıman uçakları şehrin üzerinde saatlerce uçtu.
- b. Bütün gün onlarca bomba attılar.
- c.
- d. Onlar gittikten sonra şehrin sokakları cesetlerle doldu.

10.
- a. Yemekte bamya vardı.
- b.
- c. Kaan tabağa hiç dokunmadan masadan kalktı.

11.
- a. Kaan nezleydi ve burnu tıkalıydı.
- b.
- c. Paketin içinden aldığı mendili çöpe atarken daha rahat nefes almaya başlamıştı.

12.
- a. Feyyaz giden otobüsün arkasından koştu.
- b.
- c.Nefes nefese şoförün arkasına oturdu,parasını uzattı.

13.
- a. Efe ile Özge okuldan çıktıklarında yağmur iyice hızlanmıştı.
- b.
- c. Eve vardıklarında kıyafetlerini değiştirmek zorunda kaldılar.

14.
- a. Ahmet okuldan çıktığında iştahla pastanenin vitrinindeki pastalara baktı.
- b.
- c. Eve gittiğinde ağzı burnu çikolata içindeydi.

15.
- a. O gün, Hakan'ın doğum günüydü.
- b.
- c. Elinde kocaman bir paketle eve giren babasını görünce çok sevindi.

16.
   a. Ali su dolu sürahiyi taşırken ayağı takıldı
   b.
   c. Birden her yer sırılsıklam oldu.
17.
   a. Ayşe bir sepet pantolonu ütü masasına getirdi.
   b.
   c. Bir saat sonra tüm pantolonlar jilet gibi olmuştu.
18.
   a. Feyyaz kurabiye kutusunu açtı
   b.
   c. Feyyaz kutuyu kaparken dudaklarını yalıyordu.
19.
   a. Hasan ile halası, terzinin önüne bir sürü sökük, yırtık, parça parça kıyafet dizdi.
   b.
   c. İki gün sonra kıyafetleri alırken terziye çok teşekkür ettiler.
20.
   a. Meliha kirli çamaşırları çamaşır makinesine koydu.
   b. Meliha çamaşır makinesini kurdu.
   c.
   d. Bir süre sonra çamaşırları makineden çıkarırken her şey mis gibi kokuyordu.

APPENDIX IV

Aşağıdaki sorularda 'a' ve 'b' tümcelerini sırasıyla okuyunuz.Tümcelerle ilgili sorulan soruları doğru seçeneği işaretleyerek yanıtlayınız.

1.

   a. Kaan nezleydi ve burnu tıkalıydı.

   b. Paketin içinden aldığı mendili çöpe atarken daha rahat nefes almaya başlamıştı.

   Soru:Kaan neden rahat nefes almaya başladı?

   a. Nezlesi geçtiği için.

   b. Burnunu sildiği için.

2.

   a. Kaan misafir odasında top oynuyordu.

   b. Bir süre sonra elinde cam parçalarıyla gizlice odadan çıktı.

   Soru: Kaan neden misafir odasından gizlice çıktı?

   a. Bir şeyler kırdığı için.

   b. Annesinin geldiğini sandığı için.

3.

   a. Efe ile Özge okuldan çıktıklarında yağmur iyice hızlanmıştı.

   b. Eve vardıklarında kıyafetlerini değiştirmek zorunda kaldılar.

   Soru: Efe ile Özge neden kıyafetlerini değiştirdiler?

   a. Kıyafetleri ıslandığı için

   b. Okulda kıyafetleri kirlendiği için.

4.

   a. Öğretmen problemi çözmek için Kaan'ı tahtaya kaldırdı.

   b. Kaan yerine otururken çok üzgündü.

   Soru: Kaan neden üzgündü?

   a. Problemi çözemediği için.

   b. Öğretmeni ona yardım etmediği için.

5.

a. Ali eve geldiğinde eli yüzü kir içindeydi.

b. Banyodan çıkarken mis gibi kokuyordu.

Soru: Ali neden mis gibi kokuyordu?

a. Temiz giysiler giydiği için.

b. Yıkandığı için.

6.

a. Yemekte bamya vardı.

b. Kaan tabağa hiç dokunmadan masadan kalktı.

Soru: Kaan neden tabağına hiç dokunmadı?

a. Bamya sevmediği için.

b. Karnı aç olmadığı için.

7.

a. Asuman Pazar günü buz gibi havada sokakta oynadı.

b. Pazartesi günü okula gidemedi.

Soru: Asuman neden okula gidemedi?

a. Hava çok soğuk olduğu için.

b. Hastalandığı için.

8.

a. Sevgi'nin birinci dönem matematik notu karnesinde zayıftı

b. İkinci dönemin sonunda annesine karnesindeki matematik notunu sevinçle gösterdi.

Soru:Sevgi neden sevinçliydi?

a. Dönem sonunu geldiği ve tatile gireceği için.

b. Matematik notu düzeldiği için.

9.

a. O gün, Hakan'ın doğum günüydü.

b. Elinde kocaman bir paketle eve giren babasını görünce çok sevindi.

Soru: Hakan neden çok sevindi.

a. Babası eve geldiği için.

b. Babası ona hediye aldığı için.

10.

a. Balıkçılar sabah erkenden ağlarını denize bıraktılar.

b. Akşam ağırlaşan ağları zorla çektiler.

Soru:Ağlar neden ağırlaşmıştı?

a. Balıkla doldukları için.

b. Bütün gün suda kaldıkları için.

11.

a. Bu gün,bozulan çamaşır makinesi için eve tamirci geldi.

b. Tamirci giderken ,annem çok teşekkür etti.

Soru: Annem neden tamirciye teşekkür etti?

a. Annem,arar aramaz eve geldiği için.

b. Çamaşır makinesini tamir ettiği için.

12.

a. Ali su dolu sürahiyi taşırken ayağı takıldı.

b. Birden her yer sırılsıklam oldu.

Soru: Her yer neden sırılsıklam oldu?

a. Su döküldüğü için

b. Sürahi kırıldığı için.

13.

a. Seda yemek masasına oturdu.

b. Masadan kalkarken tabağı bomboştu.

Soru: Seda'nın tabağı neden bomboştu?

a. Seda tabağına hiç yemek almadığı için.

b. Seda yemeğini bitirdiği için.

14.

a. Çok susayan Ceyda çeşmeyi açtı.

b. Çeşmeyi kapatırken 'oh dünya varmış' dedi.

Soru: Ceyda ne yaptı?

a. Su içti.

b. Yüzünü yıkadı.

15.

a. Ayşe bir sepet pantolonu ütü masasına getirdi.

b. Bir saat sonra tüm pantolonlar jilet gibi olmuştu.

Soru:Pantolonlar nasıl jilet gibi olmuştu?

a. Ayşe pantolonları düzelterek katladığı için.

b. Ayşe pantolonları ütülediği için.

16.

a. Feyyaz kurabiye kutusunu açtı.

b. Feyyaz kutuyu kaparken dudaklaıını yalıyordu

Soru: Feyyaz neden dudaklarını yalıyordu?

a. Dudakları kuruduğu için.

b. Kurabiye yediği için.

17.

a. Ahmet okuldan çıktığında iştahla pastanenin vitrinindeki pastalara baktı.

b. Eve gittiğinde ağzı burnu çikolata içindeydi.

Soru:Ahmet çikolatalı pasta yiyebildi mi?

a. Evet.

b. Hayır.